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Practical Points in the Management of Some of the  
Diseases of Children.

By I. N. Love, M. D.,

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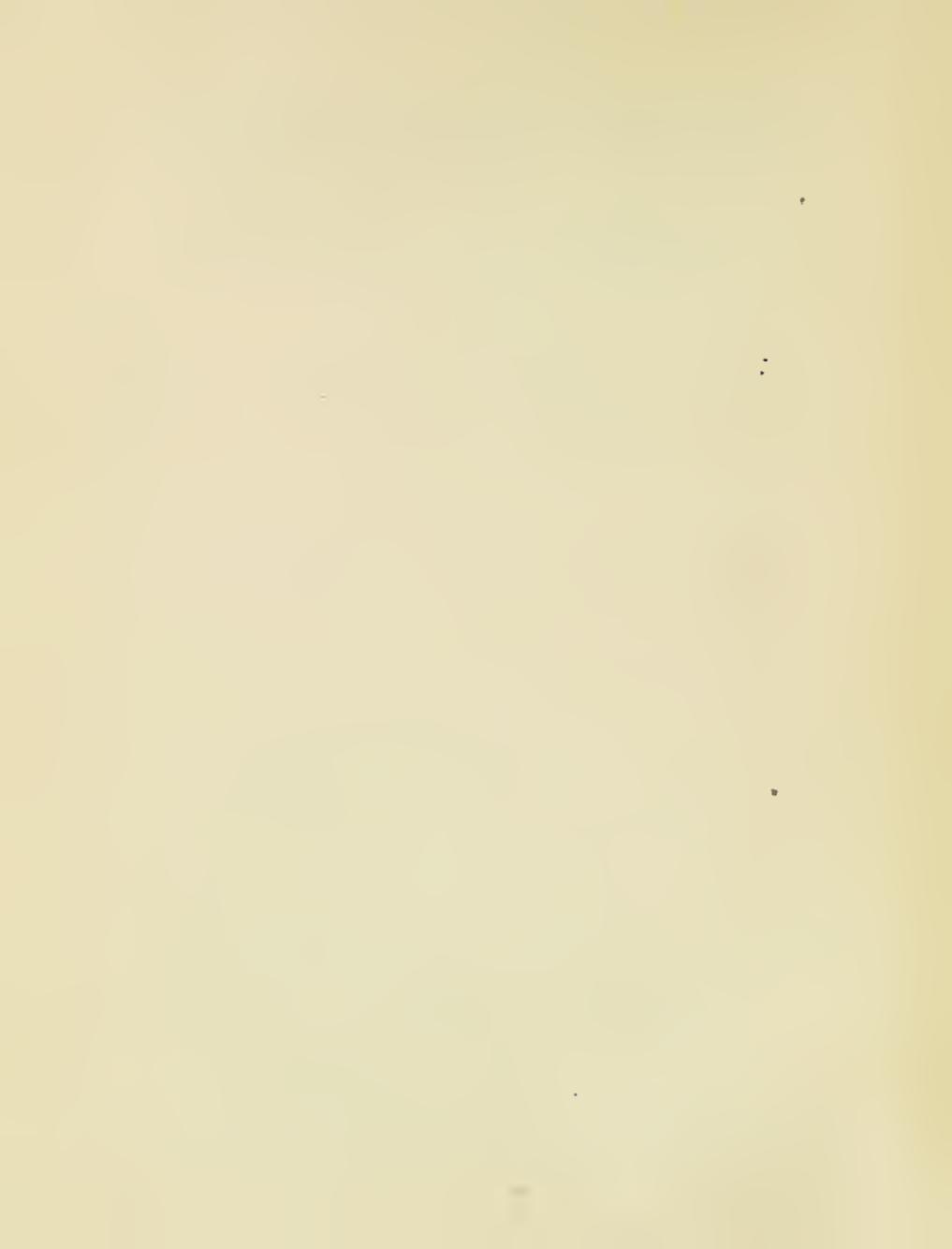
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# PRACTICAL POINTS

— IN THE —

## Management of Some of the Diseases of Children.

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— BY —

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President American Medical Editors' Association (1890); President Pediatric Section of American Medical Association (1890); President Mississippi Valley Medical Association (1887); Secretary Pediatric Section Ninth International Medical Congress; Member American Pediatric Society; Member Board of Trustees of American Medical Association Journal; Professor Diseases of Children, Clinical Medicine and Hygiene, Marian-Sims College of Medicine, St. Louis; Consulting Physician City Hospital, St. Louis; Resident Assistant Physician City Hospital (in 1872-73-74), St. Louis; Editor Medical Mirror, St. Louis.



1891.

GEORGE S. DAVIS,  
DETROIT, MICH.

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8914

## THIS LITTLE VOLUME IS DEDICATED

To one of the most earnest, enthusiastic and honest workers that the American Medical Profession ever possessed,

JOHN T. HODGEN,

Whose life was the personification of Purity, a crystallization of Chastity and Charity; a constant inspiration to others to work and win—whose every act pronounced him the unselfish friend of humanity—the Young Doctor's Guide, Counsellor and Ardent Helper; whose every thought was to help others to help themselves, and keep all knowledge of his help from the beneficiary.

Full many a year will come and go ere the Medical Profession of America has another more lofty and commanding figure. Those who knew him intimately and well were fortunate. There cluster about his personality, that was at times seemingly severe, though in fact ever calm, patient, strong, benignly firm, gentle and genial, many of the most tender and blessed memories connected with the life of

THE AUTHOR.



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## PREFACE.

Never in the history of the world has there been as much brain-work upon the part of every class and condition of men in behalf of children as now. This is, indeed, the children's age.

Art, literature, mechanical ingenuity, and every possible field of work have been directed toward the improvement, the amusement, and the comfort of the children, and it is high time for doctors to be aroused to a keener interest in them.

The object of this little volume is simply to group together a number of practical points pertaining to various disturbances of childhood which have come under the direct observation of the writer. That which is said here is a mingling of facts gleaned from the works of other men, and bedside observation, both in private practice, hospital and dispensary work. During the past twenty years the writer has had a field of work in the City of St. Louis, which has been at least a varied one, the first five years being connected with the City Hospital, City Dispensary, and other institutions. The chief and last part of this period has been devoted to private practice.

There is much difference in the character of the diseases which are observed among the poorer classes of a large city and among the well-to-do. In the former instance, the chief troubles are those dependent upon bad air, bad food and insufficient clothing. Among the latter, the variations from the standard of health are largely due to improperly selected food, over-feeding, and congestive troubles dependent upon taking cold, being caused in the majority of cases by over-heated homes, insufficient clothing and careless exposure to the elements. The exanthematous diseases affect all classes,

but they are more serious and more fatal among the unfortunate poor. The opinions of every writer should be carefully considered, for it would add much to the correctness of our conclusions, if we could determine the particular field of work in which the writer has been engaged. Views which are based entirely upon a hospital experience, or upon a work among the pauper element, necessarily vary much from those of an observer whose work is among the upper "400" of a great city; or from the opinions of him whose parish happens to be out in a section of country far removed from the city, where every breeze that comes from the various points of the compass carries with it health, life, and force, and where the facilities for good food are in abundance.

The writer trusts that the views herein presented will at least be accepted in the spirit in which they are given. He is conscientiously anxious to advance the interests and arouse the thought of the profession in the direction of the importance of pediatrics. If this little book, intended for the "leisure hour," aids in the accomplishment of this end, it will not have been written in vain.

## GENERAL.

In managing the diseases of children, we shall have gained much if we recall the fact that we can cure the diseases of babyhood better by preventing them than in any other way.

We should make it the object of our lives to teach the parents of the children under our care that an indefinite amount of prevention is worth more than an indefinite amount of cure. Every day's sickness checks the proper development of the child, aiding in the direction of a delicate organization rather than a strong one.

There can be no wound without a subsequent scar, nor can there be a day's illness without its effect upon the child.

This being so, we should emphasize to the mother, in tones of thunder, the thought that nothing which will tend in the direction of preventing disease is trivial. We should run the risk of being charged with being cranks and riding hobbies if need be, rather than become neglectful or allow the parent to be neglectful of the health of the child. In a general way we are safe in saying that nearly all the diseases of early life may be avoided if constant, unremitting care be given the child. Proper hygienic measures; cleanliness, keeping open the secretions, the anatom-

ical sewers so to speak of the little bodies, from the very day of their birth on through each and every day of their lives ; selection of diet, proper instruction as to the time of eating, protection against chilling of the surfaces, clothes proper for each and every season, all are of vital importance.

If we have faith that religious care in these directions will be followed by success and the health of the children, and if we infect the parents under our care with our belief, much will have been accomplished.

One of the first essentials to the proper management of the diseases of children is to have the complete confidence of the children themselves. If we have their confidence, our presence does not disturb them, but has the opposite effect, and we are better able to secure a full knowledge of their case. Every possible effort should be made to so influence them as to reach their tender side and thus have presented to us a clear undisturbed picture.

We should establish the habit of mingling with children, and if we do not possess a natural fondness for them, we should endeavor to develop it. We should constantly study children, their habits, tastes and peculiarities in health if we hope to cope with them in disease. I am strong in the belief that (other things being equal) a man's interest in children is greatly increased by his possession of them. The child's doctor as a rule, should be a father.

By taking this position, I do not mean to oppose the treatment of children by bachelor doctors or childless fathers, for often I have seen these latter much fonder of children than many parents of my acquaintance, yet the fact remains that constant association with children develops a knowledge of them.

Having learned to know children in health, being familiar with their peculiarities and idiosyncrasies when well, we are the better able to judge of them when they become the victims of disease.

In making our examinations of a child, if not already acquainted with him, we should be particularly careful to make our approaches gently, in fact if there is one word that I would emphasize in connection with managing children, it is "gentleness," and if you couple with that word another one, viz: "firmness," equally important, we have a pair which will enable us to accomplish much.

A "gentle firmness" is one of the first requisites of a good parent, so also it is of a good child's doctor. A never varying patience, a persistent perseverance, a loving interest in the child, an ability to impress it with the fact that you are its friend are the first essentials.

Children, like dogs, intuitively know their friends, and if a physician has not and cannot cultivate love for children, he ought to be honest enough to refuse to attend them.

Of course I would not make the point that these

qualifications referred to are superior to a scientific knowledge of the etiology, pathology and proper treatment of the diseases of children, but I do believe that the possession of these latter qualifications will not bring success if the others be absent.

I recall a case which came under my observation some years ago, where a harsh, rough, uncouth, unkind physician was called to see a fretful, peevish child and instructed the mother, in spite of the conditions present, to punish the child for his ugliness of disposition. The child was thrown into convulsions later and the surprising part of it is that the result was not fatal. The doctor in the case should have been put under treatment himself and another attendant should have been called. Suppose we are called to a child with fever, a disturbed nervous system, a rapid pulse, a heart acting tumultuously, if we are not able to command the confidence of the child, we are certainly at a great disadvantage. Our presence annoys and antagonizes him and aggravates all of the symptoms present; if, however, we can reach the better side of the child, if our knowledge of baby nature be sufficient, we can soon have an opportunity for studying the case perfectly. Take for instance the question of securing the temperature by means of the fever thermometer, if we approach a child abruptly or awkwardly before we have secured a proper knowledge of the degree of fever in the case, we will have thoroughly "rattled" the little patient. If we under-

stand him however, and approach him correctly, having his confidence, we will soon secure not only the temperature but many points valuable in the making up of our diagnosis.

Remember, if we frighten and demoralize our patient, all symptoms are intensified.

We should secure a knowledge of the excretions ; one of our first inquiries should be as to the nature of the evacuation from the bowels. If the napkin has not been preserved, we should impress upon the parent the importance of saving the last action from the child and the napkin before our next visit. Nothing will so clearly indicate the condition of the alimentary canal as the evacuation from the same. If the discharges from the bowel be frequent and unsatisfactory, with straining efforts, local irritation, particularly of the lower bowel, is indicated. If the urine be high colored, the napkin darkly stained by it, it is suggestive of fever. The appearance of the tongue is of vital importance. If the tongue be broad, too large for the cavity which contains it ; if there are indentations upon the sides occasioned by the teeth pressing upon the same, with more or less pain over the right hypogastrium, we have evidence of an inactive liver. If there be on the tongue a heavy coating with red points and edges, we have evidence of an inactive state of all the secretions and marked gastro-intestinal disturbance, or else, if a continued fever be present, we have symptoms pointing towards

typhoid fever. We should bear in mind that the tongue is expressive of the conditions of the alimentary tract in its entirety, the mouth being the "port of entry" to the great gastro-intestinal canal. If we have an active secretion upon the part of the stomach and the rest of the glands of the intestinal canal, the tongue will indicate it; if, however, the tongue be heavy, swollen and gorged, it is typical of the same condition beyond. We are safe in judging a "road-way" by the appearance of the "gate-way" to the same.

Another point: If the skin be dry, inactive, shrunken, it is in itself expressive of the condition of the system at large; indeed, we should remember that the skin and the alimentary canal are each a continuation of the other. The entire tissues of the body are contained within a closed sac, the outer portion of which is skin, the inner layer of which is the mucous lining of the alimentary canal. The only difference between the lining membrane of the alimentary canal and the cutaneous covering of the body is one of degree, the epithelial layer of the skin being thicker and heavier.

Not only do the skin and the lining of the alimentary tract sympathize one with the other, but the entire glandular system of the body acts in harmony. The liver, the spleen, and the various glandular organs are active or inactive just in proportion as the skin and its appendages and the internal lining

of the body, as expressed by the tongue, are active or the reverse. An important thing we should bear in mind in connection with babyhood is the proper clearing out every day of the bowels, as well as seeing to it that the skin is carefully washed. We should instruct the parent of the child to protect the surface against sudden or excessive chilling by a lighter or heavier grade of flannel, according to the season, the year through. Fortunately now the manufacturing guild has directed its attention towards the furnishing of all-wool, regular made, soft, elegant grades of flannel, suited to the season. Three grades are presented: the heavier for mid-winter, the medium for spring and fall, and the lighter grade for summer. There can be no doubt nature intended that a non-conducting covering should be furnished all animals. Particularly the chest and bowels of the child should be protected at all times. I feel that we are neglectful of our duty if we fail to impress upon parents the necessity of the child wearing not only an all-wool undershirt summer and winter, but also to direct that it should have the bowels covered with a flannel bandage, by which precaution we assist in the prevention of the chilling of the abdominal surfaces by which the blood is driven to the internal organs, causing impaired digestion, congestion or inflammation. If we remember that a very large percentage of the deaths in the earlier years of life are caused by diseases of the

respiratory system, due to the so-called colds, dependent upon the chilling of the surface, the importance of this course can be appreciated. In addition to the great mortality occasioned by diseases of the respiratory system, dependent upon taking cold in early life, numerous deaths result from the same cause affecting the abdominal organs.

I know I am safe in saying that ninety per cent. of all the children who die under three years of age, die from disturbances of the alimentary canal, the digestive system, or respiratory apparatus, dependent in the majority of cases upon the chilling of the surfaces.

It is a popular idea that the chief danger to children during the summer months is the excessive heat; that the various diseases of the alimentary canal are dependent upon the effects of the heat. This is certainly true to a very considerable extent, the heat producing that general depression conducive to sensitive nerve centers which superinduces internal congestions, disturbed digestion, etc. At the same time there is danger of the child taking cold even in the hottest weather.

In midsummer instructions are often given mothers to place the child, with only the lightest slip of muslin upon it, in a position where it can get fresh air. Time and again I have found these little sensitive plants in the hot days of July and August with nothing on them except the little slip referred to, in

some shady place where a strong draft would blow upon them. I have even found them placed in the cellar on account of the coolness there, the whole thought seeming to be to keep the child cool. I wonder that some of the ignorant mothers have not, as a result of the constant preaching which they have received upon this subject, placed the little ones in the refrigerator.

I have found children dangerously ill with congestion of the stomach and bowels dependent upon cold received in the manner suggested. There is almost as much danger to the little one from "taking cold" in hot weather as there is from "taking heat." We should provide for a uniform temperature, and impress upon the parents the absolute necessity of the child being guarded against a draft.

The thought has been thrown out that in treating children we labor at a disadvantage, our hands being tied on account of the fact that the child cannot give us a history of his case, and that there is much light which we lose in consequence of this. But, take it all in all, I am strong in the belief that we have a decided advantage in the managing of the diseases of children over and above those of adult life.

Though the child may not be able to verbally present to us much in the way of information, probably we are better off for that, for many times the physician is misled by the remarks of the patient. A child never pretends (except in rare instances

during school life possibly). So in earlier childhood, in infantile life, we generally have presented to us a correct picture, the true story. Nothing is withheld, nothing exaggerated, things are exactly as they seem, and the gravity of the case is unaffected by over-anxiety on the part of the child, by worrying, by the indulgence of gloomy anticipations, by the burdens which naturally belong to adult life. If we cultivate the habit of carefully studying the symptoms as they are presented to us, we will soon find ourselves more promptly able to make a diagnosis than when called to an adult.

## THE CHILD IMMEDIATELY AFTER BIRTH.

It is too frequently the custom for the newborn infant to be turned over promptly to the tender mercies of the "Sairey Gamp" of the sick room, and all the energies of the medical attendant to be directed to the mother.

This is a mistake; in the first place the watchful, thoughtful mother can but feel that the dearest object of her life is being neglected and this in itself is depressing to her, so for the good of the mother the physician should pay due attention, at every visit, to the child, but primarily, for the good of the child, the doctor should give it careful attention from the very moment of its birth.

I should not think of giving instructions as to the toilet of the newborn child for the reason that this little work could not properly take up that subject. The text books on Obstetrics all have instructions upon this point, yet, at the same time, they do not sufficiently impress upon the reader the fact that he should give scrupulous attention to the babe.

We all know the importance of placing the child upon its right side immediately after birth with a view of favoring the closure of the foramen ovale; of the proper cleansing of the child; of the proper dressing of the cord. In this latter connection I would

suggest that we emphasize in our minds the importance of dressing the cord antiseptically, the same as we would make any surgical dressing; the bathing of the same in corrosive sublimate solution, one part to a thousand would be in order, followed by wrapping in corrosive sublimate lint. With such dressing suppuration can be completely ruled out, and we all know that by these precautions (since the demonstration of the bacillus tetanus) tetanus neonatorum is also ruled out.

The nurse should be instructed carefully as to the proper manner of washing the little one's mouth. Coarse, rough cloths have frequently been used and too much muscular effort directed to the delicate mucous lining of the mouth and tongue and denudations of the mucous membrane have frequently been produced.

A soft rag or a small piece of absorbent cotton wrapped about the finger answers well, and a mild antacid lotion should be used, nothing being better than the following:

|     |                        |        |
|-----|------------------------|--------|
| B.  | Sodii Biboratis,       | ʒ ii.  |
| Fl. | Ext. Pinus Canadensis, | ʒ ss.  |
|     | Glycerin,              | ʒ ss.  |
|     | Aquaæ Rosæ,            | ʒ iii. |

M. Sig.: Use as a mouth wash night and morning.

The nurse should use no force in the process.

Immediately after birth the child should be given for twenty-four hours the following:

B. Hydrarg Chlor. Mit. gr. i.  
Sodii Bicarb.,  
Sacch. Lac.,       $\frac{aa}{aa}$  grs. x.

M. ft. ch. No. xx.  
Sig.: One powder every two hours.

By this powder we gently stimulate the secretions of the alimentary canal, the activity of the liver is aroused, fermentation in the stomach and bowels is prevented and an antiseptic condition therein is produced.

When we remember that in the newborn child the liver is larger, in proportion to the body, than it will ever be again, that there is an engorged condition of the excretory organs and that the alimentary canal is filled with accumulated secretions, we can appreciate the importance of a remedy which will at once clear out the system and make way for the proper reception of food on the part of the food tract.

I am sure that this course not only favors the cleansing out of the alimentary canal, but tends to the prevention of jaundice, and arouses activity in the entire glandular system of the child.

It helps in the direction of better digestion, of better rest, inasmuch as the fermentative condition of the alimentary canal is largely productive of the colics so frequent in the newborn.

We should now turn our attention to the proper nourishment of the child.

First of all we should instruct the nurse to give freely of warm water, two or three or four teaspoon-

fuls at a time for the first few hours. This form of nourishment (and warm water is a nourishment) will probably be sufficient for the first twelve hours, but in some cases we need to give more.

Of course it goes without saying that the child should immediately after birth be placed to the mother's breast, as her best interest is thus subserved, as well as that of the child.

The withdrawal of the accumulation within the breast stimulates a more active contraction of the uterus, and the secretion of the breast taken by the child aids in clearing out its alimentary canal.

We hear much regarding the duty of mothers in nursing their own children. I have rarely found, be it said to the credit of maternity, a mother who was not anxious to nourish her child. During the past twelve years I have been fortunate in having a practice among the very best element of a large city. Many society women, many women who might be considered light and frivolous, and yet with one exception I have found them all anxious to do their duty to their child, so that I feel that as a rule we shall have the earnest co-operation of the mothers in nursing their children.

If the mother seems short of milk, we should not be too easily discouraged, and should persistently feed her with a view to the developing of her milk-giving powers. At the same time we must remember that under the existing conditions of society and

civilization there are many women who are congenitally imperfect in this direction, and we should not fail to promptly make up all deficiency upon the part of the mother.

Scores and scores of times I have had children come under my observation who had been practically starved to death the first three or four months of their lives by earnest, anxious mothers, who thought they were nursing their children and giving proper nourishment to them.

The little one may work earnestly, energetically and persistently and get but little. He cries ever and anon and at once is dosed by the nurse, or possibly by the anxious mother, who is ignorant of the fact that her child is hungry. Among the ignorant, unfortunately, some "soothing syrup" is apt to be brought into requisition.

The baby is frequently thirsty, and should be given freely of water instead of being placed at the breast; but if there be a dearth of secretion in the breast, the child is probably kept at the same a considerable part of the time pulling away for dear life for what he does not get, his mother weary and worn out, and he vexed and irritated, and righteously so, too, for the reason that he is working for a living and not getting it. All these things should impress upon us the importance of now and then making more careful investigations. Analyze the mother's milk, and make frequent examinations of the condition of the breast.

Have the child refrain from nursing for a given length of time, and observe if there is any accumulation. Insist upon regularity in feeding but there is no particular harm done if the child be changed from his food.

We are safe in taking the position that as long as there is nothing in the composition of the food in itself objectionable, and if the food be in a form digestible it is safe to be used. We need not fear changing from one food to another that is we need not fear the result if we take a child from the mother's breast, say for half a day or a day, and give it temporarily some substitute for its natural food.

## SUBSTITUTES FOR MOTHER'S MILK.

On substituting some other food for the mother's milk it may be necessary to give the artificial food every alternate feeding; in other words it may be only a partial substitution.

Let us save the mother's breast milk and encourage her milk-giving powers, for in case of illness on the part of the child when light diet is allowable this supply is a Godsend. The child is soothed and comforted, and there is much in that.

For the first month or two the child should not be fed oftener than once in two hours, the interval may then be lengthened to two hours and a half.

Do not forget that the nursing bottle should be plain and simple,—it is easier to clean. For the same reason the nipple should be the block rubber variety. No tubular affair should be allowed.

The use of several bottles, ample cleaning, airing and sunning should be insisted upon.

**WET-NURSES.**—Of course it goes without saying that as a substitute for mother's milk, some other mother's milk is preferable; in other words a wet-nurse should be engaged, if one can be secured whom we know to be in good physical condition, with no taint upon either physical or moral character. Better by far that the child should run the gauntlet of

some other forms of food, or even die, than that a wet-nurse be brought in the family whose qualifications render her somewhat of the nature of a moral leper.

Parents have a divided duty, a duty to the home in its completeness, a duty to their other children as well as to the infant.

Taking one consideration with another, in the majority of instances we are safe in ruling out of the family the wet-nurse; besides many families cannot afford the luxury.

In the selection of a wet-nurse invariably insist that a clear bill of health be presented and also evidence of the possession of a good moral character and a reasonably kind disposition.

Impress upon the mother, however, in employing a wet-nurse the thought that there need be no special fear in the matter of changing foods, or changing wet-nurses. Indicate at once to the nurse employed complete independence of her. If the reverse course be pursued the naturally tyrannical nature of the brood will be apt to manifest itself. Details as to the qualifications of the wet-nurse need not be presented.

I maintain that the little one can have a change of food without running any very great risk, if the severest care be exercised.

If a wet-nurse is not available (other things being equal), the milk from a good, healthy cow is to be preferred, and before being used it should be completely sterilized.

There are many writers who take the position that cow's milk is the only food for infants where wet-nurses are not available, but the same objections sometimes apply to cow's milk as to wet-nurses.

The difficulty of knowing the condition of the cow from whom the milk is taken, as to the cleanliness of those who have cared for the milk, and the difficulty also of impressing upon the members of the household the fact that milk is more readily polluted by its environment than any other article of diet, presents many objections to its use, as also the additional facts that it absorbs atmospheric impurities; that it readily ferments and sometimes develops within itself poisonous properties.

In 1884 Prof. Victor C. Vaughan, of the University of Michigan, isolated an active principle from poisonous cheese, which he named tyrotoxicon. Later he found the same principle in impure milk, ice-cream, and other articles of food in which such milk formed a part. In experimenting with the poison, it was found that its action on the lower animals produced the phenomena of cholera infantum. The symptoms and the post-mortem appearances were identical. From this it is easy to understand the prevalence of cholera infantum among the very poor, where fresh, wholesome milk is almost unknown.

We have in this discovery an explanation of the many so called obscure cases of poisoning from picnic ice-cream. In many of these parties there have

been large numbers taken down suddenly with all the symptoms of acute poisoning from arsenic or other active irritants.

There can be no doubt that the tyrotoxicon of Vaughan is the *casus belli* in the majority of these cases. Dr. Vaughan, after a long series of laboratory experiments, demonstrated that normal milk infected with a small portion of poisoned milk and kept a few hours at the temperature of the body, rapidly becomes poisonous in its entirety.

Dr. W. D. Booker, of Johns Hopkins University, has done much active work in the laboratory in the direction of demonstrating the micro-organisms which are at the bottom of much of the trouble of the alimentary canal of infants suffering from "summer diseases."

There never was yet a case of cholera infantum that had not a preliminary history of gastro-intestinal disturbance of a mild character, usually lasting from two to three days prior to the acute attack. Of course, exceptionally, there can be sudden attacks of cholera infantum just as there may be of cholera-morbus in adults, produced by an excessive amount of undigested food, but the majority of cases present a preliminary history of a mild intestinal war prior to the more acute attack. Observers who have had an opportunity of studying the subject know that when cholera is present there is generally a history

of choleraic diarrhœa preceding the acute attack of cholera.

If the proper diet be selected in these cases during the cholera times and if the proper check be placed upon the disturbance in the alimentary canal, the majority of cases of cholera would be avoided. For the same reason, we would impress upon the mothers and the attendants of the children under our care the fact that in summer or winter if the mild disturbances of the bowels of the child be properly cared for, cholera infantum will in the majority of cases be ruled out altogether.

In the managing of these disturbed digestions and more serious intestinal riots, we should bear in mind Vaughan's tyrotoxicon, and we will often find it best to withdraw all milk diet for a time.

We have for centuries rapidly advanced in our development of proper food for adult life, and the advancement of civilization has demonstrated to us that nearly all food which is properly prepared is cooked, and yet not until recently did we realize that milk should be no exception to the rule. There can be no doubt but that the boiling process renders the milk more digestible. The curd of the milk which is formed in the stomach after drinking appears in finer particles, is more broken up, and is of course more approachable by the gastric juice.

The boiling of milk also has an additional advantage, in that it destroys the possibility of tubercular

infection, it having been demonstrated that the milk of cows suffering from tuberculosis may transmit that disease to those who partake of it. As has been suggested when citing the cases of acute gastro-intestinal disturbances aroused by picnic ice-cream, dependent upon the presence of the cheese poison in the milk, freezing does not destroy micro-organisms of any kind, in fact, all organic matter is preserved by the freezing process, and when received into the alimentary canal is as virulent as before; but a temperature of 212° is destructive to it, so that in boiling the milk we purify it as well as render it more digestible. There are in the shops sterilizing apparatus, which are convenient, but for all practical purposes the smallest size Mason fruit jar will answer every purpose. The milk may be placed within the jar, and the same, without its cover, set in a vessel of cold water, which being put upon the stove and brought to the boiling point, will have reached that degree of heat which is sufficient. After standing a moment or two upon being removed from the stove, the top of the jar may be screwed on, and then it is practically hermetically sealed. The advantage of the small jars is that they will hold a quantity sufficient for use each time, while if the larger ones be used, the milk has to be disturbed and runs the risk of pollution.

There may occur cases where even sterilized milk will not be digested, and then it may become neces-

sary to modify the milk by the addition of barley water or some farinaceous article. Some form of malt is an admirable addition in these cases. I have found no better agent for the purpose than Mellin's Food, a teaspoonful or two to one portion of milk for a feeding. By its presence in the milk, it being rich in hydrocarbons and dextrose, we have not only an aid to digestion, but additional elements of food, so that nutrition is better accomplished. Maltine, a very attractive form of malt, is also many times well received when added to sterilized milk.

The digestive powers of the infant often are so impaired that it becomes necessary to predigest the milk, by adding the following formula:

|    |                           |        |
|----|---------------------------|--------|
| B. | Pulv. Pancreatic Extract, | gr. v  |
|    | Sodii Bicarb.,            | gr. xv |
|    | Sacch. Lac.,              | gr. xv |

M. Ft. ch., No. I.

Mix this powder in a gill of warm water and stir it into the amount of milk necessary to fill a nursing bottle, then place the bottle in a vessel of water at a temperature a little above 100° F.

By keeping the milk at a temperature of 100° for twenty minutes, it will be sufficiently peptonized to be well received by the child. If, as sometimes happens, a bitter taste is developed, we may know at once that we have heated the milk too much or too long. Commerce has fortunately provided for us peptonizing materials, which are always available and very convenient. Fairchild Bros. & Foster's

peptogenic milk powder answers an admirable purpose, and full instructions are given with it, so that he who runs may read and use. Parke, Davis & Co., with their pancreatic extract, have also furnished us that which we can lean upon as a reed unbroken. I often find observers object to peptonizing materials, because the attendants of the sick room have not sufficient intelligence or understanding to properly carry out the instructions given. I think, however, that we shall find, if we are patient, and make a practical demonstration ourselves to the nurse or the mother as the case may be, she will readily learn; yet in these matters we must ever bear in mind that we should have patience to go into every detail, and give as perfect a demonstration in as practical a way as possible to those who are to carry out our instructions. We should take nothing for granted, and we should have positive evidence that those who are to execute our orders understand them.

As previously stated, it frequently becomes necessary for us in the management of a case of indigestion in a child to stop all milk food, and we find advantage in so doing; in such cases the administration of the animal broths is indicated. The expressed juice of a rare and tender steak, warm and gently salted, will many times be retained and assimilated when other food is rejected. We have all observed that not only artificially fed babies, but those which have been most carefully and completely nourished by

their mothers, will, at times, at the table grasp greedily for the salt cellar and eat heartily of its contents. In this we have given us a cue, and we should be prompt in reading the lines which follow after, and learn that even in the very young there is often a demand for the mineral salts. It is needless to refer to the physiological necessity of these salines in the animal economy, but I fear that we too often fail to appreciate their importance, since many times these animal broths to which I have referred, rich as they are in salts, meet a necessity. I have found clam juice of great value, either given warm or cold. If the child be feverish, and the weather warm, it may be given almost ice-cold.

There has been recently been presented to the profession an admirable product known as Mosquera's Beef Meal, a perfectly pure, predigested meat, containing all the constituents of lean beef, half of which are in soluble form ready for assimilation, the other half easily digestible by the gastric and pancreatic juices. The entire preparation is composed of nutrient matter, containing about 40 per cent. of soluble peptone and albuminose. It is claimed that it represents about six times its weight of lean beef. It is quite valuable, and is tolerated with ease by the most delicate stomach. I have found in a number of instances that if given in a more or less thick soup, it will be taken by the child with avidity, even if quite young. Of course, the quantity should be regulated, accord-

ing to the delicacy of the stomach. In children of larger growth, it may be mixed with porridge, or even given in chocolate, or when made into a paste may be given in the form of a sandwich. There are often times when a rich, rare steak, scraped and thoroughly macerated, from which every shred of connective tissue has been removed, and the completely softened fibre, warmed and salted, is in good form for administration, even to very young infants, particularly in those cases where all forms of milk food are not tolerated. We must always bear in mind that every baby, like every other individual, is a law unto itself, and there can be no stereotyped rule for the artificial feeding of infants. Regularity, a proper regard for the component parts of the food, which should meet the necessities of tissue-building, a due respect for the palate of the child, and the administration of liberal quantities of liquids, will in the majority of instances completely nourish even the most delicate child.

## TETANUS NEONATORUM.

Tetanus of the newborn is decidedly a preventable disease. Recent investigations of bacteriologists have demonstrated almost beyond question that tetanus is a disease of the nervous system, dependent upon a specific bacilli. The disease is a motor-neurosis, which shows itself in tonic contractions, sometimes of the entire muscular system, and sometimes of individual muscles. It sometimes is confined to the muscles of the jaw, and is then known as trismus. Tetanus general is always accompanied by trismus, but the latter is not necessarily accompanied by the general motor-neurosis. On post-mortem there have not as yet been discovered any special lesions. Congestion of the brain and spinal cord have been observed, and some effusion in the arachnoid sac, but these are more likely to be results than causes of the disease. The most satisfactory explanation of the disease, taking into consideration the fact that it is an accompaniment of a septic condition, is the bacteriological idea. Tetanus of the newborn has been observed for years, more particularly among the lower classes and those whose hygienic surroundings were the most unfavorable. Among the colored people who are crowded together in large numbers, and have little appreciation of the importance of cleanli-

ness, and who have children pretty much as rabbits, tetanus was formerly a cause of great mortality. Physicians who practiced before the war among the slave population reported enormous numbers of deaths from tetanus among the infant class. Since there has been an appreciation on the part of the profession of the importance of cleanliness in connection with all surgical procedures, and this thought has been applied to the toilet of the umbilicus, there has been a great decrease in the number of cases. We should realize that every umbilical cord should be removed with instruments properly sterilized, and that the dressing should be antiseptic, the parts having been bathed with a solution of corrosive sub-limate, 1 part to 1000. The best dressing for the cord is the salicylated absorbent cotton. No grease should be permitted, as germs increase and multiply in the presence of oleaginous environment. The proper treatment of the disease is anti-spasmodic, whether it affect the newborn child and be dependent upon or independent of irritation about the navel, or whether it follow a traumatism. In every case of tetanus following an injury we should investigate thoroughly our wound, and if possible should open up and cleanse the same completely. If it be a member, we should favor amputation. The administration of bromide and chloral in ten grain doses of the former and two grains of the latter, often enough to produce the complete physiological effect, is indicated.

Fowler's Solution, pushed to its full toxic effect, has been commended. The late Dr. John T. Hodgen, for many years a leading surgeon of St. Louis, was a strong believer in the value of Fowler's solution in heroic doses in tetanus. He reported during his life several cases successfully treated in this manner. In consideration of the fact that children are very prone to injury, we should be ever on the alert as to the possibilities of tetanus as a complication following these injuries; even the simplest wound should be treated in the completed antiseptic manner. I should be inclined to advise that the innermost recesses of every part should be washed out thoroughly with Marchand's peroxide of hydrogen first, and subsequently, after being cleansed with pure water, thoroughly submerged in a bichloride solution 1 part to 2000 of water, and then as completely closed as possible—hermetically sealed.

Fortunately the commercial end of the medical profession has furnished us with antiseptic gauzes, absorbent cotton and various dressings that can be gotten in any well-stocked drug store. Wherever possible in the closing of wounds with sutures we should use the antiseptic cat-gut suture, for in this case the suture is absorbed, and we do not have to disturb our wound to remove the same. If the wound be deep and cannot be completely closed from the bottom, a drainage tube, properly washed out from time to time with an antiseptic solution, should

be used, and at as early a date as possible we should remove the same and apply pressure, with a view to closing the cavity.

These few points regarding the dressing of wounds are given simply as prophylactic measures against the possible development of tetanus, following simple accidents.

## DENTITION.

There are writers, and good ones, too, who take the position that dentition, being entirely a physiological process, should not be considered under the head of disease. They claim that many children have been permitted to suffer needlessly with diseases that should have been relieved, which were charged up to the teething process. Unquestionably to a degree they are right. For instance, the thought that children during the period of dentition should be permitted to have intestinal irritation, and many other diseases, and the same be ignored, on the ground that it was necessary to the teething process, has been responsible for the death of many children. But the fact that the profession and the public went too far in the direction of justifying many diseased conditions on the ground of teething, does not justify our going to the other extreme, and saying that dentition or the disturbances incident or necessary to dentition are a myth. The time was when during the teething process, if children had convulsions, disturbed digestion, long continued irritation of the bowels, sore eyes, sore mouth, sometimes of a very serious character, enlargement of the glands, febrile symptoms, at times of a very pronounced nature, they were all ignored, and simply charged up to

teething. This was all wrong, and yet we should not say, as some have said, that there is nothing involved in the teething process; that it is entirely physiological, the same as growths, the same as eating a particular meal and the digestion of the same. There are certain things that it is necessary for us to remember in connection with the teething process. I am sure we are not safe in ignoring them. It is true that dentition, like all other physiological processes, may go on uninterruptedly, without any disturbance at all; with very little, at least, though in some cases its effect upon the constitution at large is very serious, and may even destroy life in children of a very nervous organization. We should teach the mothers of the children under our care that during the teething process the child is more than usually susceptible to disturbances of its health, and for this reason deviations should be all the more promptly checked. The child in teething, we might almost say, is going through its first climacteric, and needs to be guarded carefully. The thought that it is a physiological process, and requires no attention, in the light of careful observation, is absurd. We may as well say that the bearing of children on the part of mothers is completely physiological, quite as much so as eating dinner and digesting the same, and probably in the early days, in the primitive state of society, before the enervating effects of civilization had a chance to completely overcome the women

of the world, it was so; but in this last decade of the nineteenth century, and for the many that preceded it, we know full well that the fruit-bearers of the animal world, particularly the most perfect specimens of it, those of the highest grade of society, give evidence that their work is more pathological in many instances than physiological, and requires the aid of science and the art of the skilled physician. If under these latter-day conditions parturition has become, we may say, an almost unnatural thing, surely this is justification of the thought that the teething process, which is under proper conditions thoroughly natural and easy, may become the reverse. But leaving all theorizing aside, the observation of the careful physician who has had many years of practice, is strongly in favor of the thought that dentition is not without its dangers. There are many pathological conditions which are intimately associated with teething, if not as a direct cause, at least as a superinducing cause. We are safe in saying that the teething process puts the nervous system on edge, renders it hypersensitive, so to speak, easily upset, readily demoralized, and presiding, as it does, over the various functions of the body; the equilibrium being interrupted, the resulting condition is a standing invitation to disease.

I will simply recall to the mind of my reader the order in which the teeth usually present themselves: From the fifth to the seventh month, the two central

lower incisors; from the ninth to the eleventh month, the four upper incisors, the two central appearing first; from the thirteenth to the fifteenth month, the two lower lateral incisors and the four first premolars; from the sixteenth to the twentieth month, the canines, those in the upper jaw generally preceding the lower; from the twentieth to the thirtieth month, the second premolars. There of course are variations from this rule; the teeth may appear earlier than the various orders I have named, the order may be interrupted, or they may appear very late. I have observed several cases where no teeth appeared before the child was two years old, and these children developed later well, were healthy, strong and hearty. While I would allay the anxieties of a parent where there was great delay in the development of the teeth, I would at the same time encourage their development by the administration of the best form of nutrient and tooth-making materials, such as cereals and phosphate of lime and soda. Unquestionably a long delay in the appearance of the teeth is an expression of a rachitic tendency; that is, that the child is short on its mineral supply, and we should make up the deficiency. There are cases on record of a child being born with one or more of its teeth already cut. This in the early times was considered to be expressive of a strong, heroic, aggressive disposition, but I think we are justified in looking upon it as a pathological condition. While

no case of this kind has come under my observation, authors have recorded numbers of cases of children born with one, two, or three of their teeth already cut. They favored their prompt removal. Usually there is an absence of enamel, and sometimes the development of the protruding teeth is only superficial, and may be readily removed. Various authors suggest that there is always as a cause of the too early appearance of the teeth some irritation of the periosteum of the alveolar process, and that this irritation has advanced the development. They urge removal of the appearing tooth, as it favors the relief of the generally accompanying periostitis of the alveolar process. The condition is a rare one, but when it presents itself we should look closely to the local conditions.

The thought that there should necessarily be a diarrhoea or a pronounced bowel trouble with teething, or that a teething cough, or a rash upon the skin, during the teething process, should be ignored, is all wrong; in fact we should remember that whatever pathological condition presents itself during the teething process, should be promptly relieved, with this thought well in mind: that during the teething time the bowels should be kept in a thoroughly open condition, and should present no appearance of irritation. Beyond that, a too frequent opening of the bowels should be relieved. There is no excuse for any cough or disturbance of the bronchial tubes

being permitted to continue. It is true that among the other conditions that are most apt to occur during dentition is an irritation of the bronchial mucous membranes, the little patient being more susceptible to "taking cold," and inasmuch as the very young when they take cold are very liable to bronchitis, the teething child is prone to bronchial irritation. It should be promptly relieved, because the conditions are such that if neglected serious trouble may readily develop.

**THE SKIN.**—All skin disturbances should be promptly relieved. In the early days there were objections, and even yet many of the "good old grandmothers in Israel" oppose the interfering with any irritations which may appear upon the skin of the teething child. The old-time milk crust was looked upon as a dispensation of Providence, as a "blessing in disguise," and the one who was indiscreet enough to interfere with or heal that rash was in disgrace. We should be positive in favoring the earliest possible relief to all irritations of the skin. We should impress the parents of the child primarily that the epithelial or cutaneous disturbances are a reflex from a disturbed condition of the alimentary canal, and evidence impaired digestion. We should direct our attention to a removal of the cause and relieve all fermentative conditions of the digestive tube and aid digestion in so far as possible. Usually by removing the cause we cure the cutaneous disturbance;

but there are times when we need to make applications directly to the skin.

It is well to bear in mind in connection with these disturbances of the skin, (which may generally, particularly in teething children, be classed under the head of ECZEMA), that in so far as possible all wet applications should be avoided. There are many varieties of eczema referred to by dermatologists, such as *E. simplex*, *E. vesiculosum*, *E. papulosum*, *E. impetiginote*, *E. squamosum*, *E. rubrum*, *E. universale*, *E. partiale*, and so on, ad infinitum, according to special peculiarities or special fondness of dermatologists to multiply names. The disease, of course, as represented by all these different terms varies; in fact the varieties of eczema are as numerous almost as the individuals. The history of the case, the general conditions, and the special condition dependent upon the special cause, will enable us to make our diagnosis readily. In cases of chronic eczema which have continued for a long time the skin becomes thickened, rough and fissured with papillary hypertrophy and cellular infiltration of the deepest layers of the corium. In many cases the removal of watery applications, the interference with frequent washing, and the protection of the skin from the atmosphere, with some soothing, emollient ointment, will be all sufficient, if we guard the alimentary canal against irritation and properly select the diet. In the majority of cases it is well to scrupulously

avoid all farinaceous foods. We should also lay special stress upon the matter of preventing the patient from scratching the itching part, for many times the itching is of so pronounced a character, and the temptation to scratch so great, that here we will have our greatest difficulty. As a means of relieving the intolerable itching which sometimes accompanies eczema, I have found the following, if applied once or twice daily, to be all-sufficient:

|    |                |       |
|----|----------------|-------|
| R. | Acid carbolic, | 3 ii. |
|    | Glycerin,      | 3 iv. |

M.

This is a strong solution, but if properly applied it is much less irritating than the too-frequent scratching. I have in some cases made it stronger, even to the extent of doubling the strength. To protect the surfaces against scratching, in the case of small children it may often become necessary to glove the hands and tie them. On some cases it is necessary to make a mask which will cover all of the exposed parts, leaving only a space for the mouth, the nostrils and the eyes. Often the plain ointment (laying special stress upon the "care of its preparation"), of the benzoated oxide of zinc is of great value. The best all-round application for eczema, however, is the unguentum diachylon albi of Hebra, which consists of equal parts of linseed oil and diachylon plaster, to be applied on soft linen rags, and changed every twelve hours. There are times,

particularly in the flexures of the skin, when a drying powder, such as the impure carbonate of zinc, is of service.

I have referred more particularly to eczema for the reason that it is the disturbance of the skin most frequently met with in young children.

Let us not forget that in guarding the skin of children as well as adults, we should keep in proper condition the alimentary canal primarily, and urge upon those under our care the importance of the hygiene of the skin, bathing at least once a day with tepid water and a proper kind of soap. Dr. Merrill Ricketts, of Cincinnati, at a recent meeting of the Mississippi Valley Medical Association, presented a paper upon skin diseases resulting from the abuse of soaps wherein he made very strong points. Undoubtedly there is not proper discretion exercised on the part of the household in the selection of soaps for domestic use. White castile soap is good all-around soap, but one of the best soaps for use in the nursery is Pears' soap, and in spite of the fact that somebody may benefit by this special commendation, I am ready to maintain the position, and present in justification the fact that probably the highest authority in the world upon the skin, Sir Erasmus Wilson, has publicly taken the same position. We should impress the parents of the children under our care from the day of birth with the thought that cleanliness is godliness, not only cleanliness of the skin, but cleanliness of the

inner skin, remembering, as remarked elsewhere, that the alimentary canal and the external covering of the body are each continuous with the other, of similar anatomical structure, varying only in the fact that the skin has a thicker layer of epithelial cells as a protective ; irritation of the one is reflected to the other. Keep, then, the alimentary canal free from irritation; keep also the skin in good shape, if you would have both healthful, but, mind you, cleansing the skin does not mean scrubbing it as you would scrub a kitchen floor, with soap equal almost to the concentrated lye used on the same.

## INFANTILE THERAPEUTICS.

In considering "Infantile therapeutics," first of all I would make the point that we must bear in mind the delicate organization of a child, the fact that in consideration of its incomplete development there is much more likely to be an idiosyncrasy against certain remedies, and for this reason we need to move very carefully in our administration of drugs. We should give small doses on general principles, and repeat them often, rather than large doses at longer intervals. The child is specially susceptible to opiates and quinine. It bears well such drugs as calomel, the bichloride of mercury, in fact mercury in any form; but of course even these should always be given carefully. We should resolve early in our management of the diseases of children to form a partnership, and throw upon our partner the chief work, and this partner should be Nature. The combination of a careful, conservative, alert, observing physician with Dame Nature, and the latter the chief member of the firm, will most generally be successful in the management of the diseases of children. However, we must not trust too much to nature. I have no patience with the doctor who is called to a child ill and who carelessly says to the parent, "I don't believe in giving medicine to children; open its

bowels, and it will be all right in the morning." The most careful examination should be made in every case, for, while it is true that nature is of great value in reconditioning and rebuilding the child, we must bear in mind that we have a sensitive plant to deal with, an undeveloped organism, a creature which is made up largely of nervous system, more than usually sensitive, and easily agitated, altogether presenting great susceptibility to irritation, disturbance, and attack by the various germs and deleterious influences which surround it.

Another point. The child has great elasticity, and will not yield to disease until forced to do so, and for this reason many times the true condition is masked; an ambition to play, an indisposition to yield, will many times deceive us. We should be scrupulously, religiously careful to investigate every organ, every point, connected with the child to which we are called; interrogate the parents as to possible exposure to various diseases incident to childhood; develop completely all the knowledge that we can with regard to heredity, at the same time scanning carefully all the evidence given. We are always safe in clearing out the alimentary canal of the child. The chances are that there is some error in the majority of cases; that there is some offending article of food in the alimentary canal. The opening up of the secretions is important.

In the olden days, nearly every one, when a phy-

sician was called, was promptly vomited. The emetic has almost become a lost art, and I question whether it is sufficiently appreciated. There are many conditions which call not only for a complete clearing out of the alimentary canal from above downwards, but also the beneficial effects of a complete emptying of the stomach from below upwards. The relaxation produced by emesis is of value. It has a pronounced derivative effect. It is anti-phlogistic. As a prompt *emetic* in children, the old-fashioned ipecac stands pre-eminent. There are many conditions, however, which tend in the direction of inflammatory troubles, such as pneumonia and bronchitis, where in my judgment tartar emetic in very small doses—the  $\frac{1}{100}$  of a grain—every fifteen or twenty minutes, until emesis occurs, is of great value. It should not be continued long.

I have referred elsewhere to the value of water as a remedial agent, more particularly externally, in the form of the bath. In high-grade fevers the cooling bath is the best agent we have for the prompt reduction of temperature. It is also a cleanser, and an opener of the cutaneous secretions. In chill or internal congestion, when accompanied by high fever, the hot bath is of great value. In restless, irritable conditions of the nervous system it is an admirable sedative. I do not believe, however, that water as an internal remedy is sufficiently appreciated. Children should be taught to drink freely of water in health.

It is an aid to digestion, if taken between meals, cleansing as it does the stomach and aiding in the direction of an activity of secretion of the intestinal glands. It also encourages the renal work and washes out many of the excretory products which otherwise might not be removed. There can be no doubt that the water-drinker, whether child or adult, has a more active tissue change; the food which is taken into the alimentary canal finds more active secretion, and is therefore sooner put into condition to be absorbed, and in addition finds more active absorbents and is more promptly taken into the circulation. In water drinkers there is unquestionably a more energetic endosmosis and exosmosis, in fact, water, in health and disease, is an energizer to all physiological functions. All remedies, whether administered to children or adults, but more particularly to the former, should be given if possible in the fluid form. For the reasons given above, they are more promptly taken into the circulation, and the greater amount of water they possess, the more promptly they are given out of the circulation. Probably the chief advantage possessed by the wonderful Hot Springs of Arkansas rests less in the chemical constituents of the waters of the springs than in the fact that the individuals who go there become great consumers of water, their chief occupation being the drinking of large quantities of water, and hot water at that, and as we all know, hot water is

promptly taken up and given out of the system. They who go to Hot Springs as a rule have not been water-drinkers. The chances are that many of them have been excessive partakers of alcohol, and all the tissues of the body are more or less saturated with the same, or else they are the victims of venereal diseases, or possibly rheumatism. In any case, the chances are that they are completely saturated with medicine and disease. On going to Hot Springs, partaking as they do of such volumes of hot water, there is a complete cleansing of the system, a carrying out by the hot water (which is rapidly thrown through them, as through a sewer), of the accumulated alcohol, venereal poison, rheumatic germs (if such things there be), and various forms of medicine which have been administered and accumulating for months past. The drinking of the hot water, coupled with the frequent baths, produces a flow inwardly and outwardly, from every direction, flushing and sluicing all the tissues and organs of the body. Possibly the same process of drinking pure hot water in the same large quantities, coupled with similar bathing, at home, would possess similar virtues. The only advantage of going to Hot Springs is the fact that the individual secures a rest from business, pays proper attention to the diet, and these are of vital importance. This diversion was only intended to emphasize the value of water as a therapeutic agent.

**ELEGANCE IN MEDICATION.**—We are neglectful of

the interests of our patient, of our profession, of humanity, and of ourselves, if we do not pay special regard to the palate of our patient in the administration of medicine. We have no right to ignore the sensitive feelings of our patients in any direction. Neglect of the æsthetic side of medicine on the part of the early fathers, too great a disposition to feel that physical delinquents should be treated by heroic measures, should be scourged and have poured into them hot-shot, early and often, were largely responsible for the development of one of the most prominent, irregular branches of the profession. Orthodoxy in the early days, unfortunately, both in medicine and theology, meant an active, living hell, as a punishment of disease, physical and moral. I do not believe that we can safely eliminate Hades from the treatment of moral evils any more than we can completely from the treatment of physical ills. However, as the curtain rises higher and higher on the panorama which presents itself to us, we are furnished more and more a scheme of managing children, physically and morally, in a pleasant, cheerful, kindly way.

A Sunday school superintendent called upon a visiting brother to address his school; the gentleman arose and opened his remarks by saying, "Children, love one another, confound you." History does not relate the subsequent proceedings, but if the children had risen *en masse* and thrown the visitor out of the

window, he would have been treated correctly. We have presented to us now, by nearly all of the most advanced theologians, the thought that the good Father thinks of us always affectionately, kindly, tenderly, and not specially with a desire to crush and condemn us. We are not now told that He created us for the specific purpose of damning us. All of the preceding leads to the thought that we are neglectful of our duty in the management of physical ills if we do not study them with a view of relieving them in the kindliest, gentlest, most humane way. The surgeon who would present himself to a child, or even an adult, whose limb was crushed, or whose tissues were throbbing with pain, dependent upon a local inflammation, and rudely and harshly proceed to relieve it without a single tender word, a single soothing touch, or the application of some obtundent to the shrieking, sensitive nerves, would be a brute. The kind, the humane, the thoughtful surgeon knows that in the nervous system is where his patient lives, and that if he would have prompt healing, a ready response after his work is done on the part of his patient, he must husband all the nerve force of his patient, and for this reason he should save him every single pain possible. In as great a degree it is the duty of the physician called to the bedside of a patient suffering with disease which can only be relieved by medicine and general treatment, to bear in mind also the nervous system of his patient. He

should be easy in his approaches, gentle and tender in his movements, kindly of word, thoughtful and considerate in the expression of his opinions; with a view to what? To save the delicate feeling of his patient, not to depress him, even though a child. If he enters and finds scarlet fever or diphtheria, and rudely and abruptly says: "This child has scarlet fever," "This child has diphtheria," he may produce a shock injurious to the child, which has possibly (from a knowledge of the experience of some playmate), a great dread of the particular disease mentioned. The result produced by the blunderer called to relieve him may be a lasting one. So, then, as the physician should be thoughtful of his every word spoken in the presence of a child, after having thoroughly interrogated every organ, developed every point possible, in his efforts to relieve the conditions, he should have sensitive regard for the every comfort of the patient. If he administers a remedy which is disgusting and revolting and demoralizing to the child's stomach, which raises a riot in its administration, the question is whether he has done good or evil; and the ignoring of these things on the part of members of our profession has been largely responsible, as before remarked, for the development and the growth of one of the special branches of the medical profession, whose chief merit lay in the direction of an appreciation of the importance of pleasantness and elegance in medication (even though the medica-

tion was almost *nil*), coupled with a special regard for sanitary points, hygienic surroundings, and a confidence in the *vis medicatrix naturæ*. It is not necessary to go to the extreme of administering infinitesimal nothings in order to give pleasant medicine. If it be our desire to open up the bowels of our patient, we might at first thought feel that a good old-fashioned dose of castor oil was the thing, and in the majority of instances, if it could be taken pleasantly and easily, it would be a good thing. In this connection I will say that castor oil can be given so as to be reasonably pleasant, by coupling it with lemon juice, or a modicum of whiskey and a little sugar sprinkled over it, or in the froth of beer, or even in hot milk, flavored with a small amount of nutmeg. But if the oil raises a riot, if it arouse trouble and resentment, let us give something pleasanter. Fortunately the confections of senna are nearly all pleasant to children. The compound licorice powder will many times be taken by children. The Cascara Cordial of P., D. & Co. is agreeable, and is a good opener of the bowels, besides it possesses the virtue of not only opening the bowels, but serving as a tonic to the muscular coat of the same, and if continued it will eventually relieve constipation, both in infants and adults. However, in the majority of cases of children whose bowels require opening we find a perverted secretion and coated tongue, and then the little tablet triturates that are manufac-

tured now (composed of the tenth or the twentieth of a grain of calomel, one-half grain of bicarbonate of soda and the grain of sugar of milk), are readily soluble, and are tasteless, and nearly all children eat them with avidity.

In the administration of quinine we have had many difficulties to contend with in the past. However, latterly I feel that the problem of administering quinine to children has been solved. We find in the drug stores the small chocolate tablets containing one grain of quinine mingled with a modicum of tannin and chocolate, in such form that the quinine is completely covered in its taste, and all the children under my observation for several years, readily eat the same as they would bonbons. I believe, however, that some menstruum that holds it in suspension in a form to disguise the taste, and at the same time render it readily soluble in the stomach, is the most desirable way to administer it. Pills and powders are not always as well received, at least not always as readily digested and assimilated by the stomach, as we could wish. I have time and again found capsules, particularly the gelatin-coated ones, pass through the bowel exactly as they entered it; in fact I would say that quinine should be administered the same as all other medicines, as nearly as possible in a fluid form. The following is a good formula, viz.:

|   |  |  |
|---|--|--|
| B | Quin. Sulph.,<br>Pulv. Tannici,<br>Syr. Rhei. Aromat.,<br>Syr. Tolu, | gr. xxxii.<br>gr. x.<br>3 ii.<br>3 ii. |
|---|--|--|

Sig. . One or two teaspoonfuls, every two to four hours.

The following is also an excellent way of administering quinine : viz.—

|   |   |                          |
|---|---|--------------------------|
| B | Quin. Sulph.,<br>Cascara Cordial (P., D. & Co.)<br>Syr. Tolu, | 3 ss.<br>3 jss.<br>3 ss. |
|---|---|--------------------------|

M. Sig. . Teaspoonful every two hours or as may be desired.

An advantage of this combination is that the cascara has a mildly laxative effect in addition to being a pleasant vehicle for the quinine.

When I administer quinine by the stomach, whether to children or adults, I always order the following : viz.—

|   |                               |       |
|---|-------------------------------|-------|
| B | Pepsin Cordial (P., D. & Co.) | 3 iv. |
|---|-------------------------------|-------|

Sig. . Teaspoonful with food.

Quinine disturbs digestion and the pepsine cordial given with food, makes up the deficiency of digestive power. There are times, however, when the stomach will not receive quinine to good advantage at all. In young infants I rarely have occasion to administer it internally, but have great satisfaction in applying it in the following :

|   |                                   |               |
|---|-----------------------------------|---------------|
| B | Quiniae Sulph.,<br>Sachet Pulvis, | 3 j.<br>q. s. |
|---|-----------------------------------|---------------|

M. Ft. Chart No. I.

Take two layers of flannel six inches square and sprinkle the powder uniformly between the same. Bind the edges, and having evenly spread the quinine between the two layers of flannel, quilt the same backwards and forwards and crossways until the powder is uniformly held between the meshes of the same. Then cover one side of the pad with oil silk, moisten the flannel surface with hot whiskey, and apply the same directly over the pit of the stomach, holding it in position with a flannel bandage snugly pinned with safety pins. Just in proportion as we desire a more complete absorption we will renew the application of whiskey to the flannel surface of the pad, using just enough to moisten the same, and not enough to make it soggy and wet. Occasionally it may be desirable to use hot vinegar in moistening the pad. There is considerable absorption of quinine through the skin. Of course, where we desire a more pronounced effect we can make a larger pad and have it extend over the entire stomach and bowels, warning the attendant, however, not to make it too large, as it will not fit closely to the abdominal wall. I have even in adults produced ringing of the ears and other characteristic effects of quinine simply by this means. It is much to be preferred to the administration of quinine by means of ointments. However, there are times when ointments may be brought into requisition. Again recalling the fact that the skin is only a modified mucous mem-

brane, with just a little thicker layer of epithelial cells, we can readily understand that absorption is sure. We have only to test the absorptive powers of the skin by the application of belladonna to a sufficiently large surface; we will readily secure pronounced dilatation of the pupils, and we have all seen ptyalism produced by a too liberal supply of mercurial ointment to the skin. If we give a sufficient amount of thought to each prescription that we write, and to each case, we can in nearly all instances give our remedy in a pleasant form. I feel that I would be leaving out a very important formula if I did not present that which I have found of great value as an all-round domestic cough mixture for many years. I think the majority of families under my care in the City of St. Louis keep the following formula on hand, particularly during the winter months :

|                              |        |
|------------------------------|--------|
| Best Whiskey,                | 6 ozs. |
| Maltine,                     | 1 pt.  |
| Best Glycerin,               | 6 ozs. |
| Juice of 6 lemons,           |        |
| Six tablespoonfuls of sugar, |        |

Mix and boil fifteen minutes. Dose, a teaspoonful to a tablespoonful, according to age, every one, two or three hours, as may be indicated.

This combination is a good expectorant, and is valuable in the majority of colds accompanied by cough in children, and for that matter in adults as well. The majority of cough mixtures secured by

our patients in the shops unfortunately contain ipecac and opium, and these disturb digestion and pervert secretion. The advantage of the mixture given is that there is nothing in it which will impair digestion, if given within proper limits, and nearly all of the component parts are in themselves nutritious, and by their presence stimulate and favor nutrition.

## DIETETIC POINTS.

Just in so far as the family physician impresses upon the parent of the child the importance of carefully guarding the general health through the medium of its diet, in keeping it in the best possible condition, just in so far is he in advance managing his cases well from the dietetic stand-point. The alimentary canal of the child from birth should receive the most thoughtful attention of the mother. That which goes into it should be most carefully selected and prepared, and that which goes from it should be closely observed from time to time, and at frequent intervals the child should be "weighed in the balance" and if "found wanting" more scrupulous care should be given than before, with a view of making up the deficiency. The mother should know that in the case of the child, it not only eats to live but should eat to grow. The best and most nutritious food should be selected and it should be given at regular and proper intervals, and the child should be taught to eat carefully and slowly; but, from the beginning of the teething process, the family dentist should be visited at regular intervals that he may care for the teeth, which are of greater importance to the well-being of the child than is appreciated by the laity. The child should be taught how to masticate for it

needs to be taught. We help them in learning to walk; we aid them in learning to talk, and we certainly should assist them in learning to properly prepare and grind their food. Lessons in mastication should be a part of the training of the infant. Mothers should study not only how to please the palate, but to familiarize themselves with the primary principles of physiology to the extent that proper selection of food be made in order to accomplish the completest nutrition. Variety is the spice of diet. Not only does the palate demand variety, but the tissues as well. Let us not forget to remind the mothers that the five digestive fluids, are from the beginning, dependent upon the proper secretion and activity of the digestive glands which are a part of the glandular system, and that the entire system must be doing proper work or else the individual glandular organs will become crippled. Reasonable muscular exercise should be insisted upon, and if the child be too young or too delicate to exercise himself, he should be given the benefit of massage with lots of fresh air from the very earliest weeks of infantile life. There is far less danger of taking cold in the winter time, than there is of being poisoned from breathing bad air in close, ill-ventilated rooms. With the surface properly protected, there is no danger from cold air. In many homes there is more sewer gas than oxygen, and much of the loss of appetite and impaired nutrition in the child world is due to a neglect

of general and personal hygiene. The child that is properly clothed can, from the very first month of its existence almost, live outdoors the greater part of the day-time, winter and summer. There can be no demand for fuel in any furnace unless there be drafts; there can be no consumption of fuel unless there be plenty of oxygen. Much impairment of physique and perverted nutrition is due to the neglect of these directions. It goes without saying that the well-nourished, well cared for tree or plant can withstand the ravages of the elements better than the stunted one. The uttering or repetition of truisms emphasizes them, and for this reason I feel willing to present that which "goes without saying." The well-fed child, the child that has a clamorous appetite, whose diet is well selected, whose digestion is well performed, who takes plenty of physical exercise, who lives outdoors, and is well clothed, breathes plenty of oxygen, rarely takes disease and when he does, unless there has been dire neglect of the preliminary announcements of the disease, the case can probably be successfully managed, at least in the majority of cases. Of course the consideration of all these hygienic points of early life, does good only in the direction of equipping the child in a manner to resist disease; but when we are brought face to face with a case of bona fide well-developed illness, happy are we if the child has had proper management from birth; if it has not, we have all the more reason for

availing ourselves of the opportunity for good which lies in the direction of nourishing the afflicted one in a manner to give it the power of wrestling with its enemy. I claim that we are neglectful of our duty if we do not preach, yea, if we do not almost fanatically announce in season and out of season, to the parent of the child who is under our care, the importance of oxygen and exercise and fresh air and diet easy of assimilation and of excretion as well. As previously remarked, we should teach the mothers to know not only what goes into the child, but also to carefully observe what comes out of it, and to train them in the direction of recognizing variations from the normal of the various excretions of the body. The child not only runs the risk of poisoning from the sewers within our homes, but there is danger of sewerage poisoning from its own sewerage system, particularly if it be permitted to become clogged and engorged. Food means force; the manifestations of life are due to the reaction of food with the derivatives from it and the oxygen upon each other. Disease which attacks the blood should, most unquestionably, be constantly antagonized by that which sustains and supports the blood. In our selection of diet, we should bear in mind the importance of meeting the demand in the direction of furnishing the three varieties of food; at least the foods which present the elements that go to make up the body and supply the blood. The mineral, the vegetable and the ani-

mal kingdom should never be lost sight of, and in speaking of food, we necessarily include drink. In this connection, within reasonable bounds, the more liquid there can be given the individual with the food, the more ready its assimilation. The nitrogenous articles of food, such as albumen, caseine, etc., should be supplied in abundance, and the hydrocarbons, such as sugars and fats should be drawn upon liberally and the inorganic as represented by the various salts should not be ignored. The food par excellence and which should be insisted upon and given almost constantly during the progress of exhaustive disease, is Nature's ideal nutrition, milk. Milk is surely a typical illustration of natural food. In its caseine we have the nitrogenous matter; in the butter the fatty matter; and in the sugar of milk, the additional hydrocarbons, together with the proper salines and water, all forming a combination upon which one can live indefinitely. In the egg, we have an admirable natural food, except that unless it be eaten in its entirety, shell and all, it is lacking in the salts. But in the egg and milk together, we have all the necessary elements of nourishment. Surely in milk we have the staff of life, "a nectar for the gods." A better nerve builder never was devised. Of course, it should be sterilized; it is safer, and besides after being boiled, it is more digestible. Given in peptonized form, it is readily assimilated and if this be done carefully, the taste is not affected. I

would suggest that many times where the milk has been peptonized and the bitter taste developed, we may be sure that the milk has been heated too much. In the majority of instances, a slight heating of the same is all that is necessary, and often we need not warm it at all, but stir the peptogenic powder into the milk and the digestion goes on after it reaches the stomach. The point may be made many times, that the child will not take the milk; that it either does not like it on general principles or that it has formed an aversion to it. Diplomacy will generally overcome this. If the child be not under (as unfortunately is often the case) the complete control of the parent; if it be a spoiled, petted, capricious darling, we will have many difficulties. The little fellow may be hired by one means or another to take his milk and other articles of diet as a matter of duty and for the reward which he will receive; and we should carefully study the individuality of each little one, win his confidence and love and get him to do as we wish for our sake and the sake of those who love him. Beef fibre in the form of rare steak properly prepared, is acceptable to the palate and is the most nutritious of all the animal foods, although well ripened mutton is a shade more digestible. The young green fleshes, such as veal and lamb should be tabooed. The soft part of raw oysters is nourishing; with a little lemon juice over them and salted well, they would many times be

caten by the child who has not yet cultivated the taste for oysters; and they possess the advantage of almost digesting themselves. Clam juice and beef juice, domestic and commercial, in the form of bouillon or bovinine are admirable. The domestic beef tea has been supposed to be of no value as a nourishment. Of course, it is lacking in the stronger elements of nutrition, but the salts which it contains are gently stimulating and besides they are of value as pleasers of the palate, so it may be given freely. The advantage of beef peptones and bovinine is that they contain large quantities of albuminous matter and well digested excellent beef fibre. They may be given in teaspoonful doses every two or three hours, exactly as you would give medicine. If a few drops of brandy be added to it or good Tokay wine, the combination is even better. Sweet-breads, if stewed and delicately cooked, without the addition of the stimulating condiments which usually accompany them, are very nutritious and digestible and will many times be found very acceptable. In the selection of sweet-breads, we should confine ourselves to the use of the pancreas and exclude the thymus gland. Venison, when in season, and the various game, such as quail, prairie chicken, wood duck, etc., if selection be made from the breast of the birds and the loin of the venison, are most palatable, and if properly cooked, are digestible and nutritious. Vegetables are of great value as they contain a great

deal of starch and saccharine matter. Simply from the stand-point of variety they are of advantage. The cereals, such as wheat flour, oat-meal and corn-meal may all be utilized and be of excellent advantage. Puddings made of corn starch with milk are nutritious and in many cases, very pleasant to the palate of the child. Rice is one of the most valuable, farinaceous articles of diet, and if properly cooked, it is very digestible and seems especially acceptable to the alimentary canal, often when the same is irritated. Potato is a very nutritious form of starchy food, and should be thoroughly ripe and well cooked. The best way of cooking them is either steaming them or baking with the peeling on. The cauliflower is delicate, and when well cooked is reasonably digestible. Belonging as it does to the cabbage tribe, however, it should only be eaten in small quantities. The tomato is a very agreeable acid food but is more valuable as a relish than for its nutritive properties. It is a good addition to soups as it adds attractiveness and pleases the palate. It is an excellent antiscorbutic. Well selected and properly cooked asparagus, the tender portion of it in particular, is delicate and enjoyable and is a most excellent stimulant to the urinary apparatus. Spinach, thoroughly cooked is not only enjoyable but it serves an admirable purpose in the direction of relaxing the bowels, and of course, should be carefully given for this reason. It has been declared by author-

ties on dietetics, to be wholesome and if given cautiously, it aids digestion in that it stimulates secretion by its presence in the alimentary canal. I have frequently found the stalks of rhubarb or pie plant when well stewed, to be very acceptable to children, particularly those craving acids, and if given in reasonable quantities, of value to the appetite.

Fruit is of great value not only in health but in sickness, and properly prepared fruit will be of service, but it must not be over ripe or green. It is an agreeable and refreshing kind of food, and eaten in moderate quantities exercises a favorable influence as an article of diet. It is chiefly of service, looking at the actual material afforded, for the carbohydrates, vegetable acids and salts it contains. It is decidedly antiscorbutic. When we are in doubt about the digestive powers, it is well for the fruit to be cooked. The effect of fruit is to diminish the acidity of the urine. The alkaline vegetable salts which are contained in fruits, become decomposed in the system, change into the carbonate of the alkali and are eliminated with the urine; for that reason it is likely to prove favorable in gout and the rheumatic diathesis, wherein the urine shows a tendency to throw down a deposit of lithic acid. There having been recently established, clinically at least, a very close relationship between the gouty and rheumatic diatheses and the inflammatory diseases of the throat, particularly of the tonsils, for the reason just given, the fruit diet is

specially indicated in all troubles affecting the throat and glandular system. The various fruits which are particularly valuable as articles of diet, are accessible and freely grown in America; among them the pomaceous group stands first. Of this group, the apple and pear are easily obtained and are fortunately of the greatest value. In the raw state, the apple is not considered easy of digestion; but when carefully selected and well ripened, there are many times when a scraped apple may be given to advantage, without burdening the digestive powers, and there is nothing more grateful to the palate of the child. The apple if cooked however, is light and digestible, and no better laxative for the bowels can be given than roasted apples. The best variety of pears is a very delicate fruit. If well ripened before plucking and reasonably fresh, a soft luscious pear is more digestible than the apple. Unless very ripe and very soft, the pear should be cooked. Oranges, particularly from the southern part of America, are abundant and even the imported oranges are so easily grown and cheap, that they are, when in season, very available. The orange is exceedingly grateful and cheering to the palate, and if thoroughly ripe and reasonably fresh, it is very seldom liable to create disturbance in the alimentary canal; and it may be admitted under almost all conditions either of health or disease. Lemon juice in the form of lemonade is an agreeable beverage in all feverish conditions and

it is rarely objectionable unless given in excess. As a food, I cannot pass over the importance of alcohol and the malten liquors. Whatever the dictum of the schools may be with reference to alcohol in relation to its food powers, clinically, it is of unquestionable value. In the form of brandy of the best quality and good Tokay wine it is nearly always acceptable to children, and we have that upon which I believe we can safely lean. It should be given carefully and with proper discrimination, but aside from being of value as a nourishment and as a stimulator of the flagging energies, it is also to a certain extent a local and general antiseptic. Malt is a beverage which many times will serve us well. It is not only nutritious in itself, but it aids by its presence in the stomach in the digestion of farinaceous foods. A special malt known as "Maltine" is very attractive to children. Ice cream, if properly made, or frozen custard is, in small quantities at a time, very pleasing to the heated and parched mouth and throat and is very nutritious. Nearly all children are delighted with the promise of such morsels and we may many times by this means not only aid in feeding satisfactorily but by giving such things as a reward for taking medicine, we the more gracefully accomplish our desires, in other matters.

A new food has been under my observation for several months and hardly a day has passed that I have not prescribed it liberally. It is known as

Mosquera's Beef Cacao, and as nearly all children are fond of chocolate, they will readily partake of it. Mosquera's Beef Cacao consists of equal parts of beef meal, sugar, and a superior article of Dutch Cacao. It does not require cooking but may be mixed with warm milk exactly like ordinary chocolate and so completely is the taste of the beef disguised that it cannot be detected. Requiring therefore no previous preparation, it is most conveniently administered. Another excellent condensed food in the shops, of great value, under the name of Mosquera's Beef Meal, contains all the inorganic salts and stimulating principles of the extracts of meat and in addition the nutritive principles which the extracts lack ; all the albumen of meat juices without their weakness ; all the extracts of powdered meats without their rancidity or insolubility ; all the peptone of the peptonized meats without their bitterness. "Mosquera's Beef Meal is a perfectly pure predigested meat, containing all the nutritious constituents of lean beef, half of which are in a soluble form ready for assimilation ; the other half easily digestible by the gastric and pancreatic juices. The entire preparation is composed of nutritive matter, containing about 40 per cent. of soluble peptone and albuminose. Mosquera's Beef Meal represents in actual nutritive value at least six times its weight of lean beef." It is perfectly palatable and will be tolerated with ease by the most delicate stomach. It admits of being

administered in a variety of forms, thus avoiding monotony in the food. It may be given in any thick soup, condimented to suit the taste of the patient, or also mixed with biscuit powder, oatmeal, porridge and milk and sugar. Again it may be mixed with chocolate, which makes a delicious beverage, or given in the form of a sandwich, and, finally, as a plain beef tea, simply dissolving it in hot water, adding salt.

To sum up:—Food which is rich in the elements of nutrition should be constantly presented to the children suffering with disease. In order not to surfeit the stomach, it should be given carefully and at proper intervals and in proper variety. The matter of nutrition should never be lost sight of in the preparation of the food, but due regard for the palate and the digestive powers should always be had. In the presenting of food, the attendants of the sick room should be impressed with the importance of not only having it properly prepared, but of presenting it in an attractive way. The little ones have their esthetic tastes the same as we have; and the china should be well selected and all the utensils in which delicate morsels are placed before the sufferer, should be scrupulously neat and clean. Care should be taken in the linen; the little attractive waiters upon which the food rests should be well kept and everything pleasantly arranged for the sensitive feelings of the invalid. A bunch of flowers placed in proper

position upon the little sick one's table will often do much to brighten an otherwise unattractive spread. We cannot be too careful in all the various details that go to make up the necessities of the sick room. As physicians, we can often help out the digestion of the little one under our care by thoughtfully studying the artistic side of alimentation and giving pointers to those who are helping us in our work.

The patient, be he ever so young, will suffer and the result of our treatment is much less likely to be favorable to us if we fail to appreciate the importance of catering to the "psychical satisfaction" of the sufferer.

The nervous system is a very complex organization and anything which rudely disturbs the palate, may upset the whole system. That which is disagreeable or unattractive to the eye, the nose and the palate, may create a general disgust in the nervous ranks, and indigestion, non-assimilation, irritation, restlessness, friction and a loss of force be the result.

Let us husband every resource we possibly can for the good of our patient, and never lose sight of the thought that nothing which pertains to and assists in the securingment of a successful result, is trifling.

## CATARRHAL FEVERS.

As the term would indicate, catarrh means a flow, and it is applied as expressing an inflammatory condition of the mucous membranes, whether it affect the alimentary canal or the air passages. As has previously been stated, intestinal catarrh, either produced by errors in diet, weakened digestion or the chilling of the surface, as commonly expressed in "cold," is the most frequent disturbance of early childhood, and next in order is a catarrh of the respiratory mucous membranes. Steiner states that at the Prague hospital for sick children, out of an annual clientele of 9,000 patients there were on an average 1,300 children suffering from catarrh of the air passages. Of course, we may have either primary or secondary, acute or chronic catarrh. The symptoms and the suffering of the child vary according to the particular part of the respiratory apparatus which may be affected. If the congestive and inflammatory disturbance be within the nasal passages, we may simply have a mild case of snuffles. If it be in the upper air passages,—the upper bronchial tubes, we may have a mild case of bronchitis. But we must always bear in mind that by continuity of surface, and from the fact that the secretions of the irritated surface cannot be readily expelled from the child, we

are ever in danger of the inflammation extending into the smaller bronchial tubes, and result in a capillary bronchitis. If the mucous membrane is inflamed, we will find that it is injected, either generally or in patches, swollen, at times almost œdematus, with a rich secretion of mucus, which sometimes may be almost muco-purulent. If this condition of the mucous membrane, or this catarrhal attack, be within the larynx, we may have a case of acute laryngitis or croup to contend with. The initiatory stage of the disease is the dry stage, the parts being dry, gorged and painful. The secondary stage is that of secretion. Of course, if the bronchial mucous membranes be involved in the first stage, the cough is hard, dry and painful, and sometimes very tormenting. When the stage of secretion follows, the cough becomes moister. The younger the child the graver the danger, and in very young children a dry, light cold affecting the air passage may prove fatal in a very short time. A simple case of snuffles should receive our promptest attention, for it means obstruction to the breathing apparatus; it means irritative catarrhal fever of a greater or less character. But if there be evidence of bronchial irritation or laryngeal distress, whether the child be young or more advanced in years, we should bear in mind the possibilities, and never ignore it. We should invariably take the temperature, for we shall sometimes be surprised to find how high the temperature will go,

when the mother had thought that the child had only a cold.

“*Only a Cold*” sometimes means a dangerous or deadly capillary bronchitis within a few hours, or pneumonia. Those of us who have had an acute cold or influenza, with all the accompanying aching of every muscle, soreness of chest, constant inclination to cough, which when responded to racks every nerve in the body, accompanied by splitting headache, may readily understand that when such an attack rattles us so completely, and so nearly “knocks us out,” it is really dangerous to the young child. We shall be working in the direction of our duty if we impress upon mothers who employ us as physicians the fact that their babies, even their children of larger growth, can never have a cold without being in danger of something worse, and every cold needs prompt treatment; nursing, coddling, kindly care. On general principles, the first indication in these cases is to produce a complete relaxation, and to this end nothing is better than a hot bath, unless the temperature already be high, in which case the bath should have a mild degree of warmth. A mild remedy should then be given to open up and clear out the alimentary canal. The good old-fashioned dose of oil is well, but many times we shall find great objections to the taking of the same, particularly on the part of older children, and in addition an aversion by the mother to the administration; but whether oil

be given or not, the mild chloride and ipecac should always be given, in the following formula:

|   |                        |         |
|---|------------------------|---------|
| B | Hydrarg. chlor. mitis. | gr. 1   |
|   | Ipecacuanhae pulv.,    | gr. ss. |
|   | Sacchari lact.,        | gr. x.  |
|   | Sacchari albi,         | gr. xx. |

M. Ft. chart No. x. Sig.: One half or one full powder every two hours, according to age.

This little stereotyped formula serves admirably as a stimulator of the secretory systems of glands, not only of the alimentary canal, but also of the mucous glands of the air passages. One of the sheet anchors in these cases is the muriate of ammonia, in doses of from one to five grains (well diluted with water), according to age, every one, two or three hours, as may be indicated. It will soften up and loosen a harsh, dry irritable condition of the air passages more rapidly than any remedy within my knowledge. If the catarrhal disturbance be located (and nearly always there is some of it at least), within the nasal passages, we should direct our thoughts towards soothing and opening up the same, with a view of aiding respiration, and to this end the free floating through the nostrils of melted vaseline or liquid alboline is good. We may often relieve as by magic the discomforts of an almost frantic child by soothing the irritated membrane, and secure a more prompt resolution of the inflammation. The more promptly we can relieve and remove entirely the morbid conditions of these mucous membranes in the children

under our care the better; because, aside from the discomforts, aside from the dangers immediately incident to the inflammatory disturbance, we must remember there is constantly a tendency towards a chronic irritation in these parts if they are not promptly relieved. The inflammation may be of such a character as to denude the mucous membrane in spots here and there, and whether denuded or simply inflamed, if this condition is permitted to remain we have present in our little patient a constant invitation to various germs which are ever present in the atmosphere to enter and abide therein. In cities more particularly, where diphtheria, scarlet fever and various other germ diseases, like the poor, are always with us, we should realize that the sooner we get our little one in a perfectly healthy condition, particularly in its mucous membranes, the less the liability to its falling a victim to the disease mentioned. So even a simple cold in the head if neglected may breed a chronic nasal catarrh, or if continued, whether acute or chronic, we must remember this particular child is all the more susceptible to the contagion of diphtheria and other diseases; and diphtheria which gains entrance through the medium of the nasal passages is a serious form, for the reason that it is frequently overlooked, and thought to be nothing more than a suppurating catarrh for days, until the patient falls a victim to an overwhelming blood poisoning. When we bear in mind the anatomical structure, and the

free distribution of lymphatics in the nasal passages, we understand why diphtheria gains such rapid entrance into the circulation, and causes such profound systemic poisoning, when located in this region.

The benzoate of soda is an admirable remedy to stimulate secretions and expectoration, so that it is specially indicated in these troubles affecting the air passages; besides it is known to be, as was established by Salkowski in 1879, antagonistic to diphtheria.

**LARYNGEAL CATARRH.**—If the catarrhal inflammation attack the larynx, we may have almost dangerous symptoms developed rapidly. A harassing laryngeal cough in a very young infant may soon become dangerous. If the spasmodic feature be developed as it often is, we have the spasmodic croup, which is so greatly dreaded by the mother. It usually comes on suddenly, and our summons to these cases is nearly always in the night, the entire household is demoralized, and the child, particularly if it be young, will at times seem almost suffocating. The indication here, of course, is prompt emesis, and the simplest agent at hand is the syrup of ipecac. We will usually find that this has already been given. For children beyond six months of age, the turpeth mineral, in doses of one-half grain every hour, until free vomiting occurs, is in my judgment one of the best remedies we have. The emesis produced is an additional advantage in that it is antagonistic to inflammation, as also is the mercurial effect.

**COUP.**—The question of diagnosis between simple spasmodic croup or catarrh of the larynx with spasmodic complications, and membranous croup often presents itself, the difference being that the one is mild and usually readily relieved, and the other, of course, is deadly dangerous. The throwing out of the pseudo-membrane upon the larynx, and upon the trachea may soon endanger life by obstruction to respiration. We are never safe in telling parents positively when a child has been relieved by the usual remedies of a case of spasmodic croup that there may not be the membranous croup developing. Of course there is always more or less fever with simple croup, but if the fever be high and continuous, even if the spasmodic fits be relieved, there is danger, and we should be on the alert. I have found, not only for the relief of the simple spasmodic croup, but for the inflammatory condition of the larynx and the parts adjacent, the administration of infinitesimal doses of tartar emetic of great value. Some declare antimony to be too powerful a remedy to be administered to infants, the same as there are those who decry against calomel; but the old-time administration of calomel and antimony differs very materially from the manner in which it is given to-day. The practitioner who gives large doses of calomel to infants or parents is misdirecting his energy. Certainly I feel justified in believing that large doses of antimony are dangerous, but the lancet and the scalpel are both

dangerous when handled unskillfully or in excess ; an argument against their abuse and excessive use is no argument against their proper use. A very convenient method I have found to be to carry with me little pellets or powders of tartar emetic, of about  $\frac{1}{4}$  grain each. I then dissolve one in a half glass of water, and instruct them, according to the degree of hoarseness and irritability in the larynx, to administer a teaspoonful of the solution every ten minutes until there is a soothing effect produced in the coughing, or until emesis occurs. I very rarely fail to find good results follow. One advantage of the administration, or disadvantage, whichever we may consider it, is that we are credited with being somewhat homeopathic ; but, in any event, the result is satisfactory.

The atmosphere of the child suffering with croup should be made as moist as possible and this can be accomplished by placing a small vessel of water over an alcohol lamp in the room. If an ounce of carbolic acid is placed in a pint of hot water and kept boiling every now and then for a few minutes, the charging of the air with carbolic acid will soothe the irritated mucous membrane of the air passages. Occasionally an ounce each of turpentine and pine tar in the water is preferable.

## TONSILLITIS.

Tonsillitis is a disease peculiarly incident to children. While fortunately very young babies are not liable to it, yet occasionally it does occur, a case being recorded of a tonsilar abscess in a child only three weeks old: The cases may be ushered in with a chill, followed by fever, vomiting, bleeding from the nose, sneezing, etc., and in very young children there may be high delirium from the start, though in some cases there may be an active inflammation of the tonsils, without any of these marked symptoms. We are never safe in neglecting to examine the throat of every child to which we are called. This may be accomplished readily, no matter how young the child, if we are careful, and I believe the most satisfactory method is the use of the finger, the same having been carefully and thoroughly cleansed with soap and water. It is soft and pliable. We have an additional advantage, if we use it deftly, that we not only see the throat thoroughly well, with the light properly directed, but at the same time, through the medium of our third eye, which we should ever carry in our index finger, we can determine much as to the condition of the mucous membrane of the tongue. If the child be old enough to express itself, it will soon direct the attention of its mother to the

fact that it has a burning and a dryness in the throat, and difficulty in swallowing. If one or both tonsils be involved, the accompanying symptoms vary, of course, being the more severe with the double tonsillitis. The glands are usually found swollen and spotted with reddened patches, the honey-comb structure of the tonsil can be readily observed, an accumulation of whitened mucous being in position corresponding to each follicle, and sometimes pus is exuding from the follicular openings; but in the more violent cases the tonsils are so swollen, dark and red in color as to be almost bursting, and nearly touch one another, almost completely closing the isthmus of the fauces. Fortunately inflammation of the tonsils does not occur often in very young children.

I consider that poulticing the neck in the neighborhood of the angles of the jaw, with flannel cloths rung out of hot water and arnica or witch hazel is of service. The fomentations certainly are soothing. Remedies which open the bowels promptly are indicated.

In 1885 I published a paper wherein I favored the administration of the benzoate of soda internally freely, as being almost a specific for tonsillitis. The paper was read before the St. Louis Medical Society at that time, commending the benzoate of soda as a remedy in diphtheria, on account of its stimulating qualities upon the mucous glands. It has a tendency

to soften the secretions and encourage exosmosis or a current from the interior to the exterior and this flow from within outward soon enables the parts to throw off the deposited membrane in diphtheria. The soda benzoate being in itself somewhat of a germicide, was certainly desirable in diphtheria but on account of its action alone referred to, I feel that it was also the ideal treatment for simple tonsillitis. This treatment was subsequently explained verbally to a staff of physicians at the Mullanphy hospital, St. Louis, and they later, chiefly through Dr. Boisliniere, treated some 600 cases of tonsillitis, and found the benzoate of soda the best remedy. If given to children in 5 to 10 grain doses every one or two hours, as the case may demand, it rapidly causes a throwing off of secretions from a previously dry, engorged, angry and painful tonsil. The flow is upward and outward through the mucous glands. Pus and various other accumulations are thus thrown off, and I am sure that the case terminates, if seen early, in one fourth of the time usually required, and suppuration rarely occurs. The accumulation of mucus and pus upon the tonsils in a case of follicular tonsillitis may sometimes simulate the membrane of diphtheria, and no doubt some cases have been declared diphtheria which were only follicular tonsillitis; but we should always bear in mind that now, particularly in cities, diphtheria is an endemic disease, and that every case of tonsillitis, or inflammation of the mucous membrane

of the air passage, is a standing invitation to diphtheria. A case of follicular tonsilitis may if we are not upon the alert suddenly emerge from a painful but non-dangerous disease into the deadly, treacherous, diphtheria. I feel that we are neglectful of our duty if we do not constantly bear in mind this fact in every simple case of sore throat which we treat, and let all applications be in the nature of germicides ; let our administrations of internal medicine be supporting and strengthening, and antagonistic to germ diseases ; and to this end the bichloride of mercury in  $\frac{1}{60}$  grain doses, well diluted, given internally, together with the benzoate of soda, are in the right direction. Locally gargles or applications which we may make either by means of the probang, or better still, by the atomizer, should always, and fortunately may now very readily be made antagonistic to the diphtheria poison, at the same time being soothing and sedative to the inflamed surface.

I should treat no case of tonsilitis without occasionally spraying the surface (simply for the sake of feeling safer myself) of the inflamed tonsil occasionally with Marchand's peroxide of hydrogen. This is a rapid oxidizer of organic matter, and is unquestionably a germicide. It may be used in its purity or diluted with one-half of water. If the parts be sensitive, a very excellent application to them is a spray of the following :

|          |                                     |         |
|----------|-------------------------------------|---------|
| <b>B</b> | Tr. calendula,                      | 3 j.    |
|          | Fld. ext. hamamelis (P., D. & Co.), | 3 iiij. |
|          | Soda biborate,                      | 3 ij.   |
|          | Glycerin,                           | 3 ss.   |
|          | Aqua rosa,                          | 3 iiij. |

**M.**

This may be used every hour or two, as the case may be. If the parts are very painful, I have often observed that a gargling or spraying of the surface with hot milk to which a teaspoonful of baking soda had been added to a glassful is very soothing. If the child should swallow this particular gargle, it will be an advantage. The cases usually terminate favorably inside of 24 or 48 hours under this plan of treatment.

## ENLARGED TONSILS.

The consideration of tonsillitis naturally brings up the subject of enlarged tonsils. This hypertrophied condition of the tonsils does not usually follow a single attack of tonsillitis, although it may do so, but is much more apt to be the result of repeated attacks. According to my observation, children who are the product of strumous parentage, particularly of a remote syphilis on the part of the parents, are more prone to a chronic enlargement of the tonsils. The inflammatory exudation is less liable to be absorbed. The seriousness of the condition depends very much upon the degree of the enlargement. Sometimes, if it be not very extensive, mild astringents persistently applied will reduce the size of the tonsil, and I certainly think that alterative medicines should be administered. The syrup of hydriodic acid in teaspoonful doses, as a tonic, or the compound syrup of hypophosphites, is of value. The building up of the general health, the guarding against a repetition of colds, all favor the gradual absorption of the inflammatory material. There may be cases, however, where the enlargement is very great, they being even as large as pigeon eggs, nearly touching and blocking up the fauces. Where this is the condition, I believe the impairment of health, and obstruction

to breathing is so pronounced as to render a removal absolutely necessary. The general health is impaired, besides the child assumes a dull, heavy look, goes about with its mouth open, breathing through its nose, and, as is said to have been observed by the savages of old, there is a disposition toward crediting it with a stupidity which it does not possess. The old Indian adage was, "fear not the man who keeps his mouth open." Where the tonsil is so much hypertrophied as to produce an obstruction to breathing, or interference with the comfort of the individual, it should certainly be removed. A child is much more liable to attacks of pharyngeal catarrh, is more in danger of diphtheria and the other contagious diseases; and where there has been so great a growth of adventitious tissue, we cannot hope to secure its reduction by other means than removal. It has been stated that towards puberty the affection will disappear of itself. If the child be quite young, the operation is not an easy one, and I believe in the tentative methods until a child is advanced to the age of four, five or six, yet, fortunately, the degree of enlargement which requires removal does not occur often in the very young.

In this connection, I think we should not fail to impress upon the mothers of the little ones the importance of early teaching them to gargle their throats with cold water or salt and water. It is cleansing, and besides the knowledge may be of value

to us later if the child have trouble demanding it. We should also early familiarize them with the atomizer. In health train them and prepare them for the necessary procedures of disease, as we would in peace prepare for war. I think many a child's life has been saved by having had this training from a thoughtful mother, suggested by a thoughtful physician.

We are neglectful of our duty if we do not impress upon parents the thought that they can never take chances in these inflammatory disturbances of the throat. They should not trust their diagnostic abilities. I have repeatedly found supposed cases of simple sore throat, which had been under the care of the mother, to be well-advanced cases of unsuspected diphtheria. I recall an instance in my office, one morning in the winter of 1888, when a mother presented herself with four of her children, all of whom she said had a sore throat, like they had often had before, and which she had always been able to cope with, but the trouble now did not seem to yield. I examined them, and was horrified to find all of them far advanced cases of diphtheria, and one already presented the huskiness and hoarseness of a laryngeal complication, and died before night. The mother could hardly realize that she had been during all these days almost criminally neglectful of the interests of her children.

## DIPHTHERIA.

Diphtheria is a disease which under various names has existed for many hundreds of years and being so widely diffused and so destructive in its results, it must always be of interest to the student of medicine. The amount that has been written regarding it during the past two hundred years would make volumes sufficient to fill a library, and yet we are still greatly at sea regarding its pathology, and, if the testimony of many writers is to be accepted, we know less of its proper treatment. The most important monograph of the century upon this subject was that of Bretonneau (1826) composed of a series of essays read before the French Academy of Medicine, the first essay presented to the Academy June 26, 1821, from which may be dated the modern history of diphtheria—the author creating the name diphtheria and giving us the best insight into its pathology. Not until 1859 did English medical literature adopt the name when the Sydenham Society published a volume of memoirs of the disease translated from the French of Bretonneau and others.

A novice in the profession, as he reads the works of the various authors and the testimony of observers regarding general diseases, may at times feel that his views are very clear, opinions well fixed and defined,

and his plan of action in his work positive and well decided; but he will not advance very far without being convinced that "theories and the pen are mightier than practice," and at no time will this conviction press itself upon him with greater force than when wrestling with that most described and little known, but ever treacherous disease, diphtheria.

Most authors agree that the disease is specific, infectious and contagious, sometimes prevails as an epidemic and is endemic in certain places, and that it is characterized by the exudation in various situations, particularly on mucous membranes and the surfaces of wounds, of a pseudo-membrane composed of exudated fibrin and epithelial cells, more or less organized; that it is usually constitutional and when so more or less asthenic.

The question is often asked, is diphtheria primarily, a local or constitutional disease? I believe that the poison enters the system through the medium of a denuded surface, and therefore, like syphilis there must be a primary inoculation.

In the majority of cases which begin with more or less fever, lassitude and general constitutional disturbance lasting for several days without local symptoms, we might incline to the opinion that the disease is here primarily, constitutional. However, it is probable that some hidden part of a mucous surface was the seat of the deposit and the "port of entry" for the disease. The discussion on this point, like that

regarding the local or constitutional origin of cancer, will probably go on indefinitely, but it indicates to us our duty in the matter of treatment, that is to include in our therapeutics both local and constitutional measures. Much confusion obtains in the profession in regard to the nomenclature of disease. This is much to be regretted, but when we recall the fact of color blindness and the number afflicted with it, and their inability to appreciate the difference between the well defined colors green and red, we are not surprised that physicians vary in their interpretation of the symptoms of disease.

This appreciation of the shades of color and symptoms of disease, as the case may be, enters largely into the fitness of the worker in his particular field, and suggests the propriety of the government protecting its people against the color-blind doctor, as well as against the color-blind marine pilot or railway engineer.

In consideration of the above thought, I would advise against the multiplication of names of diseases, as I would against the adoption of a great variety of delicate colors for signal lights on account of the resultant confusion. In this connection, I desire to express my belief that the two affections laryngeal diphtheria and membranous croup are identical; the fact that such excellent observers as Frank, of Germany; Dr. Hiller, Dr. George Johnson, Sir William Jenner and Morrell Mackenzie, of

England, and our own Jacobi, of America, are of the same opinion, strengthens me in my belief. It is to be regretted that the term "diphtheritic sore throat" was ever introduced; it is misleading and incorrect. A disease is either diphtheria with which we have to cope, or it is not. One objection to the use of the term referred to, is the confusion it creates in the minds of our patients and the tendency it produces toward a contempt for the dangers of infection. There can be no question that some practitioners are either too liberal or too severe in their interpretation of the symptoms of disease. If during a season when our own knowledge and the records of the health department as well, testify that diphtheria is not prevalent in the community, we hear a physician say "I have had fifty or a hundred cases of diphtheria in the past month and have not lost a case," can we not conclude that he is what we may term "a liberal interpreter of the symptoms of disease," and possibly honestly (?) so.

Again in a season when we know from evidence that cannot be questioned, that diphtheria is around us almost in an epidemic form, we hear a professional brother say "diphtheria can not be prevalent, I haven't a single case. These doctors who have them in abundance, are making them by exaggerating their tonsillitis and pharyngitis and ulcerated sore throat, and beside the fact that their cases get well, is evidence that they are not diphtheria, as that is a disease

which generally kills."—What must we think? Are we not justified in concluding that our brother is too severe in his conception of the disease? Might he not as well say that unless a case presents all of the most violent features of malignant scarlet fever, it is not that disease? All authorities and observers agree that individual cases and particularly epidemics vary in intensity and malignancy, but all are of sufficient importance to receive prompt, efficient and constant attention. No case of diphtheria, as well as no case of scarlet fever, can be mild enough to be free from danger, and all are treacherous.

Some authorities favor the parasitic theory of the disease; others oppose it. We know this however, that the exudation is capable of rapid extension, and of infecting other surfaces, and that there are agents which, if brought into contact with it, will render it innocuous. This being the case, our duty is plain.

Henle, Schwann, Hueter, Tommasi, Oertel and others have given strong proof in favor of diphtheria being due to bacteria. Eberth made successful inoculation upon living tissues with bacteria which he had isolated, and, in the pointed language of Jacobi, "he asserts, with the positiveness of an evangelist, that diphtheria cannot occur without bacteria."

As with all other questions, there are many who take a negative position, among them being Billroth, Hiller, Ehrlich, Curtis, Satterthwaite and H. C. Wood. Some are inclined to look upon bacteria as

an effect of the disease rather than the cause, among them Burton Sanderson. These pathological conundrums, questions of identity or non-identity of poisons, germs, theories, etc., are alluring, but that which practically concerns us is the protection of the community against the disease, and the successful treatment of the same. Of nearly one hundred medical journals both foreign and domestic, which have come under my observation each month during the past several years, there has hardly been an issue which has not contained numerous suggestions regarding the treatment of diphtheria. Even the secular journals are not considered abreast of the times unless their various numbers present formulae for the suppression of the disease. I believe the changes are more frequently rung on sulphur than any other one remedy by lay journals. An exhaustive reading of the literature of the subject in text books and journals for the past fifteen years, coupled with my experience and application of ideas gleaned from all sources, convinces me that the treatment should be supporting, antiseptic and eliminative. We should not forget that empty and hungry lymph vessels, not furnished with nutritive fluids, will absorb "locally-existing poisonous matters" as "a cat laps milk."

Let us then make it our business, in each and every suspected case, to furnish starving tissues and empty lymphatic vessels with food that can be easily assimilated.

lated, at the same time, earnestly devote our time and attention to the rendering of the “locally-existing poisonous substances” as nearly inert as we can, never forgetting that on general principles, and in this condition particularly, effete matter, products of diseases, the ashes of combustion, if you please, must not be permitted to accumulate. The excretory system must be stimulated, the animated system of sewerage must be cleansed and kept open. I have used the term “suspected case” advisedly, for, during the time when diphtheria is at all prevalent, every case of sore throat, in children particularly, should be suspected, isolation insisted upon and the severest precautionary measures adopted. We need not be alarmists, but we should always be upon the safe side, protecting our patients, anticipating dangers, and never caught napping. Never more than in the practice of medicine is it true that “eternal vigilance is the price of safety.” The emphatic words of one of our most earnest, energetic and efficient medical writers, should never cease to ring in our ears “Only the philosopher may be a passive spectator, the physician must be a guardian.” We should advise our patients, particularly during the prevalence of an epidemic, of the importance of giving proper attention to all complaints on the part of the children, and the frequent examination of the throat, even though no trouble is complained of in that locality, should be practiced. Treatment should be instituted at the

earliest possible moment, and it should be positively and radically antagonistic to diphtheria, even though the symptoms be not well-defined; the patient should receive the benefit of the doubt.

The isolation of our patient and his disinfection and that of his surroundings should be complete. The best disinfectant for soiled vessels and sewers, is a solution of common copperas, one pound to the gallon of water; beside being efficient it is cheap. The most desirable for clothing, bed-linen, etc., is four ounces of sulphate of zinc and two ounces of common salt to the gallon of water. Carbolic acid is objectionable in that it must be used strong to be efficient, and by its all-pervading odor, it gives a false sense of security. For the purifications of the sick-rooms nothing equals fresh air, cleanliness and sunshine. For nutrition, peptonized milk alternated with beef peptonoids and a solution of the white of an egg in a half pint of water, are to be preferred. The milk in this form, is well borne by the stomach, and readily assimilated, and being alkaline it is very soothing to the sensitive surfaces of the mouth and throat. In fact, I find an occasional gargling of the throat with equal parts of lime-water and milk, made comfortably hot, or ice cold as the case may be, a good way to relieve the pain of the inflamed surface.

The solution of albumen referred to, if carefully prepared, can be given freely, and children will not be able to distinguish it from plain cold water. In

addition to nutrition, I would positively urge active stimulation, and I consider alcohol the most desirable of diffusible stimulants. I make it the rule to give good brandy or whiskey liberally. Get the best liquor obtainable, for there is great risk in freely administering bad whiskey. I would fight the acute and infectious diseases, much as I would snake-bite, and it is astonishing what enormous quantities will be well borne in these conditions. I cannot express my convictions better than by quoting Jacobi who says, in Pepper's System of Medicine : " In regard to the dose of stimulants, it is a fact that there is more danger in diphtheria from giving too little than too much. When the pulse barely begins to be small and frequent, stimulants must be administered at once. A three year old child can comfortably take one to five ounces of cognac, or fifteen to seventy-five grains of carbonate of ammonia, or fifteen grains of msnk or camphor and more in twenty-four hours. In the septic forms especially, the intoxicating action of alcohol is out of the question; the pulse becomes stronger and slower, and the patient enjoys rest. In those cases in which the pulse is slow, together with a weak heart's action the dose can hardly be too large. The fear of a bold administration of stimulants will vanish, as does that of the use of large doses of opium in peritonitis, of quinia in pneumonia, or of iodide of potassium in meningitis or syphilis. I know that cases of young children with

general sepsis commenced immediately to improve when their three fluid ounces of brandy were increased to four times that amount in a day." I have frequently found puny children, when the septic condition was excessive, the pulse almost imperceptible, restlessness acute and painful, improve as by magic under the administration of an ounce of whiskey or good brandy every hour till an effect was produced. In this connection, I cannot refrain from referring to the personal experience of a medical friend in St. Louis, who contracted diphtheria while in attendance upon a malignant case. He stated that he applied local and general measures to his case, but that he supplied himself with the best whiskey that could be gotten and drank it in enormous quantities, keeping himself saturated with it, and the amount he took without producing intoxication, was marvellous. The effect and the result increased his confidence in alcoholic stimulation.

In the matter of medicinal treatment I am much inclined to germicidal and eliminative measures. Locally we should endeavor to relieve irritation and add to the comfort of our patients, at the same time, endeavor to prevent the spread of the membrane and render it innocuous while *in situ* or after exfoliation. I am disposed to fear the possibility of the infectious matter inoculating the alimentary canal if swallowed, (doubting the statement that has been made that the

gastric juice renders the membrane inert) and also poisoning the blood by absorption.

The two remedies upon which I chiefly rely are the bichloride of mercury and the benzoate of soda. The mercurial treatment of diphtheria was practiced, possibly empirically, many years ago, at least as early as 1797, and from time to time since has been prevalent, the usual form of administration being calomel. For five years past, I have used the corrosive sublimate in doses from the one-fiftieth to the one-hundredth of a grain every hour or two, according to age or condition, preceded by large quantities of water; I gave the mercury in this form for the reason that it was easy of administration; it acted as a germicide locally and constitutionally, and was a stimulant to the eliminative organs, as well as a preventive of fibrinous exudations in that it defibrinated the blood. In addition, it has been my custom to give the benzoate of soda in doses of five, ten or fifteen grains, every hour or two according to age or condition. I cannot better present my reason for the administration of this drug, than by quoting from a paper read before the St. Louis Medical Society in February, 1886, on scarlet fever, viz., "The remedy upon which I chiefly rely in my infectious cases is the benzoate of soda. I may safely say that I probably never prescribed for a case of scarlet fever during the early stages, without giving this remedy. In 1879 Salkowski showed that this drug largely in-

creases the secretion of nitrogenous and sulphurous compounds with the urine, and drew the conclusion that it should be useful in diseases in which the blood is overcharged with effete matters.

Salkowski, Fleck and Buckholtz discovered that the benzoate of soda prevents the development of bacteria in putrescible liquids, and Graham Brown found that diphtheritic fluids lose their contagious quality speedily in a solution of benzoate of soda. The remedy also, in my judgment, reduces temperature. It may be given in from ten to fifteen grain doses, in syrup and cinnamon water, every hour or two, to a child from two to five years of age. The mixture is a very pleasant one." Dr. A. Broudel writes, in the *Bulletin Général de Thérapeutique*, of November 15, 1886, concerning the treatment of diphtheria by benzoate of soda, and asserts that of two hundred consecutive cases he has not lost a single one. He admits the possibility of a mistaken diagnosis in some instances, and I am inclined to think the admission a very proper one, but even excluding fifty per cent. on that account, he still has a large number of cases without a death. Here, then, we have two remedies, both of which act locally and constitutionally as destroyers of bacteria and stimulants to the excretory system, thus ridding the overcharged blood of its effete matter. In mild cases, with a limited patch of membrane, and severe cases with an extensive deposit, the membrane will soften,

liquefy, and gradually be thrown off, and be much less disposed to spread or reform than under other plans of treatment. I have, since November, 1884, given no quinine and iron, except in the period of convalescence, as a tonic; and absolutely no chlorate of potash, believing that it is frequently productive of harm, and of all remedies probably more abused by the laity and the profession than any save quinine. As a local application, Marchand's peroxide of hydrogen, full strength, either applied by means of an atomizer or a swab, stands pre-eminent. If the child is old enough he may use it as a gargle, or the part may be flushed with a syringe. The peroxide is a rapid oxidizer, and under its use a thick, tenacious membrane of diphtheria will disintegrate, as melts the snow under the warming rays of the noonday sun. Now and then the local application of oil of turpentine to the pharyngeal surface is indicated, and a more healthful application to a mucous surface was never made, and as a diffusible stimulant, and an accelerator of the glandular system, nothing is better. The bichloride and benzoate of soda, as administered above, are admirably successful in controlling and relieving doubtful cases, which never advance further than being tonsillitis or ulcerated sore throat.

I present the following conclusions:

1. In the management of diphtheria, nutrition, stimulation, antisepsis and elimination are the most potent means of antagonism.

2. The nourishment should be of a character to be readily assimilated, and in the majority of cases should be peptonized.

3. Good whiskey or brandy as diffusible stimulants are to be preferred.

4. The bichloride of mercury, in small doses, frequently administered, accompanied with liberal quantities of water, coupled with the benzoate of soda, are the most reliable antiseptics and glandular stimulants at our command.

5. Too great stress cannot be given to the sodium benzoate as a local and constitutional measure.

6. As a local application, Marchand's peroxide of hydrogen is as reliable in its destructiveness to the membrane as is water to fire. It may be applied freely, and if swallowed no harm is done.

7. As a disinfectant to the air of the room, and a soother and softener of the dry and sensitive air passages, equal parts of tar and turpentine may be boiled freely in the sick room, in proportion of two ounces of each to a quart of hot water.

## EXANTHEMATOUS FEVERS.

There are certain general points which will apply to all of the fevers of this group. We must remember that we have a specific germ, which probably enters the circulation, and in its efforts, or rather, in the effort of nature to throw off the disease, we have the rash developed upon the skin. We must remember that the skin is but a continuation of the lining membranes of the body, and that naturally we have by a continuity of surface an irritation of all the lining membranes, if not a perfect rash, in harmony with that which is upon the surfaces. In a general way our treatment should be directed towards maintaining the equilibrium of all the secretions of the body. If there be enough irritation connected with any particular part of the glandular system, we should relieve the special organ and stimulate the activity of the remaining ones. If, for instance, the skin be greatly involved, and there be much inflammatory action accompanying the rash, we should be all the more active in keeping open the compensatory organs, such as the bowels and the kidneys, or if the kidneys be engorged, and their activities impaired, we should stimulate the glandular attachments of the skin to compensatory work. An open condition of the excretory organs should be maintained, with a view of

aiding nature to eliminate the poison, and a counter activity of certain other organs should be urged, which will relieve those which are crippled. A part of the expression of the disease is always more or less irritation of the skin. Sometimes this is so pronounced as to produce a marked irritative fever. Our efforts should be turned towards soothing this irritation. Time was when scarlet-fever patients and the victims of measles were permitted not only to almost burn up from thirst, but the burning process was stimulated by the application of external warmth and the maintenance of a heated condition of the air in the room of the patient. Now, however, we appreciate the value of comforting our patient, while guarding against any chilling of the surfaces, we admit cooling drinks freely, and are even willing at times to sponge off the surfaces of the body for the cooling effect produced. We are all of us every now and then called to victims of measles and scarlet fever (with a temperature much beyond 105°, a burning thirst, a feeling all over the surfaces as thou h the parts were on fire), covered mountain-high with bed clothing, and denied any form of drink whatsoever. The gratitude of the patient who is relieved from such inhuman treatment can well be imagined. The drinking of cold water under these conditions, given in the name of humanity, the removal of all excessive bed-clothing, and the administration of

remedies which reduce the temperature, are surely most grateful.

SCARLET FEVER is a disease which is dreaded more, and justly so, by the thoughtful mother than almost any other disease upon the list, unless it be diphtheria. It is the most uniformly uncertain and variable in its expressions of any of the diseases of childhood. It is as variable as the individual. No two cases during any particular epidemic will pursue the same course; no two epidemics will be alike. We may pass through a series of years during which we will have observed a large number of cases of scarlet fever, all of which were amenable to treatment and terminated favorably, without complications. If our experience be limited, we shall probably form the opinion that scarlet fever is not much of a disease after all, or else we are particularly skillful in its management; but the truth is, before we have hardly gotten through with the indulgence of this thought, one or more cases will come under observation which will demoralize us completely. In other words, the expression of the disease seems to vary during different seasons. Many epidemics are mild, while others are malignant, but no case of scarlet fever, however mild, should be looked upon as a trivial disease. The simplest case, with the temperature but little above the normal, with a rash that is hardly perceptible, with a sore throat which it is almost impossible to discover, the child disposed to play around the room

and hardly realizing that it is sick, if neglected, may suddenly develop symptoms most dangerous. I have heard observers give expression to the thought that the simplest and mildest cases of scarlet fever were most liable to complications deadly and dangerous, the explanation being given that the disease not having expressed itself in the most tangible way, was indulging its deadly work in secret; yet I believe that this is not the correct view to take. The more severe the expression of a case of scarlet fever, the higher the temperature, the greater the amount of local disturbance upon the skin, as a rule, the greater the danger of complications. The reason that the seemingly mild cases are so frequently complicated with later dangers is that they are neglected. Of several children in the family taken down with scarlet fever, the one which is seemingly the most seriously ill will receive the most attention; the mild case will more than likely be neglected. I have observed in St. Louis, where the law, which is very explicit, requiring that every house in which a case of scarlet fever occurs shall be placarded, that many times the mild case of scarlet fever is visited only for two or three days, and the house is not placarded at all, and the parents, in blissful ignorance, fail to guard the child from danger. We should impress the parents of the child with the fact that no matter how seemingly mild a case of scarlet fever may be, it is in every detail a serious and very dangerous disease. If a child

has scarlet fever at all, mildly or severely, it is in for a siege of not less than six weeks. As when called to a broken leg, we should say "This case will require six or eight weeks of guarding and attention. The most that we can do is to help nature to heal itself." We should call from time to time and guard the patient from complications, but under no circumstances should the parent be led to believe that the child is out of danger until at least six weeks have elapsed from the time of the appearance of the rash.

One of the most frequent complications of scarlet fever is nephritis, so we should be constantly on the *qui vive* and watch closely the secretion from the kidney and from time to time administer the appropriate remedies for flushing and washing out the same, and to this end the administration now and then of water-melon seed tea is of value. I consider the benzoate of soda one of the most valuable remedies to administer to scarlet fever patients; given in ten-grain doses every one or two hours, as the case may be, from the beginning, we shall secure an open condition of the excretory organs. The temperature sometimes goes very high, and in such conditions it should be reduced. Acetanilid in three to five-grain doses every two to four hours, given in the following formula, is valuable:

|                                |         |
|--------------------------------|---------|
| B. Acetanilid,                 | gr. xl. |
| Alcohol,                       | 3 iv.   |
| Glycerin,                      | 3 iv.   |
| Pepsin cordial (P., D. & Co.), | 3 iiij. |

M. Sig.: Dessertspoonful every two to four hours, with a view to holding the temperature down to 102.

This formula is not only of service in reducing the temperature, but secures tranquility to the nervous system of the patient.

The sore throat in scarlet fever is sometimes quite distressing, and remedies which sooth and are cleansing should be used. The following gargle is of value:

|  |       |
|--|-------|
| Fld. extract hamamelis (P., D. & Co.), | 3 i.  |
| Tr. calendula,                         | 3 ij. |
| Boro-glycerid (50 per cent.),          | 3 vj. |
| Aqua rosa,                             | 3 vi. |

M.

The same may be used in the atomizer at least once every two or three hours, and free flushing of the inflamed parts, either by gargling or by spraying, should be made with Marchand's peroxide of hydrogen.

While there is often a disposition to necrosis of tissues in the sore throat of scarlet fever, producing a condition simulating the membrane of diphtheria, yet we frequently have diphtheria as a complication; in fact whether there be any sympathetic relationship existing between the germs of scarlet fever and diphtheria or not, the fact remains that we often have scarlet fever sore throat plus diphtheria. The condi-

tions of system present in a case of scarlet fever, as well as the local condition, all cordially invite the visitation of the diphtheria germ. For this reason I feel that we should be ever on the alert in guarding against this possible complication.

**PERSONAL DISINFECTION IN SCARLET FEVER.**— Since we know that scarlet fever is so actively contagious, and that all of the discharges and materials thrown off from the surface are active carriers of the virus, we should be on the lookout, guarding others against possible infection from the particular individual under our care. All the vessels which are used about the sick room should be disinfected, and for this purpose we have nothing more convenient or advantageous than Platt's chlorides in varying strength, or we may use the disinfectants suggested for diphtheria. We can make such a solution as we may wish, and wash out the various utensils used in the sick room. Realizing that the desquamative stage of the disease is the one when contagion is most active, we should from the start sponge the surface of our patient with antiseptic lotions. An antiseptic cologne has been furnished, which is bichloride of mercury one part to two thousand of cologne. Freely sponging off with this is not only agreeable to the patient, but tends in the direction of the destruction of the contagious element. Another application which is also in the same direction, and at the same time of excellent advantage in soothing the intense

itching of the skin which is sometimes present, is the following :

|                   |                 |
|-------------------|-----------------|
| Acid Carbolic,    | gr. <b>xxx.</b> |
| Liquid Alboleone, | <b>3</b> vi.    |

M. Sig.: Apply once or twice daily.

We are perfectly safe in commanding a thorough washing of the surfaces every second or third day with hot water and castile soap. We will often find the attendants very much averse to changing the clothing or cleansing the surfaces. I have many times seen a victim of scarlet fever in the third or fourth week to whom a drop of water had hardly ever been given internally, and none had been applied externally, and whose bed clothing had never been changed ; burning with thirst, secretions all checked by accumulated dried epithelium and general filth. Here was a case indeed which called for sympathy and sanitation. We are safe in informing the attendants that not only in these cases, but in all other cases of sickness, if there be no draft allowed or chilling of the surface, that is if the room be kept properly warmed, and all openings guarded, any patient may be safely washed ; in fact they are the better for it. More than that, any patient, whether suffering from scarlet fever or what not, is the better for drinking freely of good, pure water. Of course there are times when the stomach will reject abundant quantities of water, but with proper precaution cool water, not too cold, but just cold enough, may

safely be given to nearly all patients, and certainly to none more than to the victims of scarlet fever. There are many accumulated poisons in the system which require a free flushing of water to carry them out. The demands of a proper elimination, of a proper cleansing of the alimentary canal, of a proper assimilation of food, of a proper reconstruction of tissue, are in the direction of a free supply of good, pure water.

## MEASLES.

In measles the complications are more frequent in the direction of the air passages, and in the later stages sometimes toward the alimentary canal; fortunately the kidneys are not so frequently involved. Conversation with those adults who have suffered from measles convinces me that the discomforts of the disease are much more severe than are generally supposed. Too often the family rest under the impression that measles is a trivial disease, and that they can cope with the majority of cases successfully without the aid of a physician. I recall a case of a little girl of twelve, the youngest child, reared in a lap of luxury, who had been sick for a week with measles, and the family physician had administered the old-time hot drinks *ad nauseum*. The child was almost frantic, had rested neither day or night for a week, at least, only at intervals, and then only from exhaustion. The thermometer indicated a temperature of nearly 106°, a persistent cough was present, and every now and then an irritability of the stomach, which was probably superinduced by the coughing. I administered the following:

|   |                 |         |
|---|-----------------|---------|
| B | Acetanilid,     | gr. xl. |
|   | Alcohol,        | 3 ij.   |
|   | Glycerin,       | 3 ij.   |
|   | Aqua Cinnamoni, | 3 jss.  |

M. Sig.: Dessertspoonful every two hours.

A sponging off of the surface, and to relieve the intolerable itching the following:

|   |                                     |        |
|---|-------------------------------------|--------|
| R | Fld. ext. hamamelis (P., D. & Co.), | 3 j.   |
|   | Acid boracic (impalpable powder),   | 3 iij. |
|   | Glycerin,                           | 3 j.   |
|   | Aquaæ rosæ,                         | 3 vj.  |

M. Sig.: Apply every four to six hours.

Directed that cooling drinks be given in small quantities *ad libitum*. After sponging of the surfaces and the second dose of the medicine the child went to sleep, and slept all night, the first night since the beginning of the attack. She called for the sponging off in the morning, and stated after receiving it that she for the first time felt that she was not in a bake oven being blistered. A little bland soup was given in the morning, and a few hours later she was delighted by being informed that she could have a little ice cream. At no time later was her temperature permitted to go above 102. The cough almost entirely disappeared with the subsidence of the fever. She remained in a thoroughly comfortably condition, and inside of three or four days was convalescing. The point I would make in this case is that many times, with a sensitive skin, and a correspondingly sensitive mucous membrane, a case of measles may cause intolerable anguish, and even great danger, and we have the means at our command for reducing the discomforts and mitigating the danger, and should avail ourselves of them.

In the several coal tar products we have the means of rendering our cases of measles all more mild; of softening the asperities of the situation.

GERMAN MEASLES has received more attention during the past ten years than previously in this country. It is a distinct disease in itself. No doubt many times it has been mistaken for scarlet fever in some cases, and in others for rubeola. It resembles scarlet fever, in that there is some soreness of the fauces generally present. The rash is less solitary in its character, and less bluish, than in measles, being in some cases more disposed to simulate the rash of scarlet fever. We should never be too positive in our diagnosis. If we be in doubt as to the character of the rash, we should not hesitate to say so. Let us frankly tell our patient that the case is not completely developed; that it presents certain symptoms which point in a certain direction, and as the picture more completely unfolds itself, we shall announce it. We are always safe in giving the other members of the family the benefit of the doubt. If we have a case which tends in the direction of any of the contagious diseases, we should insist upon isolation, and if the case should not develop in any particular direction, there is no harm done. There are certain general principles which will apply to the management of these eruptive fevers. We are safe always in holding down the temperature, comforting our patient and keeping open the secretions, and

whether the case be German measles, rubella, or scarlet fever, matters not, if we are attentive and watchful and have our patient isolated. I believe that physicians frequently err in the direction of making too hasty a diagnosis, and then hate to change it. They do not mean to be dishonest, in fact they probably are not; they try to believe that they were right. We are always safe in pursuing a careful and conservative course; let us do always with the patient as we should wish a member of our own family treated. If we pursue this course we are safe. We need not be afraid to tell the family that we have not surely made the diagnosis, and that we are simply watching the case, and as it develops will announce our opinion. Let us ask their co-operation in the direction of observing symptoms. We shall often get good service from a mother if we suggest that she take a sheet of paper and note down from time to time with pencil the symptoms as observed.

## CHICKEN POX.

Chicken pox is a disease to which the physician is rarely called. The majority of cases are carried through by the home circle, without our help. Sometimes, however, there is some special condition of the system which tends in the direction of aggravating the disease and producing a suppurative disposition upon the part of the papules, and we are then summoned. An open condition of the alimentary canal should be insisted upon in this disease, and a mild diet directed, as anything which causes irritation of the alimentary canal is reflected by an increased irritation in the irritated parts of the skin. If there be any itching, a sponging off with the lotion mentioned in the remarks upon measles will be of value. If the pustules are indisposed to heal immediately, the application of the standard benzoated oxide of zinc ointment, to which five grains of carbolic acid may be added, will be beneficial.

## WHOOPING COUGH.

Whooping cough is a disease which has been supposed to be trivial in its character by the laity, and to rarely require medical aid, but in my judgment this is a great mistake. Whooping cough is a very serious disease. Anything which produces the amount of local irritation that whooping cough does, together with the serious demoralization of the nervous system, the impairment of nutrition, the loss of weight, is dangerous; besides, statistics will prove that if many cases are not directly fatal, they are indirectly so from the complications which may follow. If we have the opportunity to influence the parent of the child, we should impress her with the fact that whooping cough is a serious disease; that the general impression which has obtained that it is not amenable to treatment is a mistake, but that it may be very materially mitigated in its severity, the discomforts greatly relieved, and the length of the attack shortened. There is nearly always a preliminary period of bronchial irritation, with some fever, before the paroxysms or spasms become fully initiated. If the child be well advanced in years, it can wrestle with these paroxysms to fairly good advantage, but if it is young, they are indeed distressing. Recent developments tend to establish the thought that there

is some specific germ causing pertussis, which enters through the air passages, chiefly the nose. This being so, it has been positively demonstrated that remedies in the nature of germicides applied to the nasal passages seemingly have an effect in reducing the number of paroxysms. I have had a number of cases in which I have used three and four times a day a liberal spray of Marchand's peroxide of hydrogen through the nasal passages. In older children I did not hesitate to use the syringe, and in them the strength used was the undiluted; for smaller children it should be diluted to about one part to three of water. When we recall the number of cases of paroxysmal laryngeal cough, spasmodic asthma, which have been relieved by the application of remedies applied to the posterior nares, we can appreciate the relations between these parts and these spasmodic seizures in whooping cough. My attention was first directed to the value of local applications such as have been mentioned in the treatment of whooping cough by a sufferer from apparent laryngeal irritation, the victim having attacks every half hour or hour, which were almost uncontrollable, and which were at times almost suggestive of spasmodic asthma. These were relieved almost entirely by the application to the posterior nares of ten grains of nitrate of silver in an ounce of glycerin, applied with a brush. For days previously the victim had had applied directly to his larynx a series of applications which

were absolutely without service. His trouble was a reflex asthma, the primary irritation being in the posterior nares. Such cases also as pass under the name of hay fever, which are similar in their character, and are relieved sometimes by local applications in the nose, are a full justification for the treatment of whooping cough through the same channel. As a controller of the paroxysms, we have in acetanilid (two and one-half to five grains every two to four hours), a good remedy. The paroxysms can be reduced at least threefold, and a comparative degree of comfort can be maintained. Not only so, but the length of the attacks is abbreviated in many cases. The repeated paroxysms in whooping cough result in vomiting--complete loss of the contents of the stomach. I should, however, insist upon the child eating right along, of course of the most digestible food; there is a satisfaction to the palate which accompanies eating, and a modicum of the food, at least, is retained and assimilated. I am satisfied that the individual is benefited who has his palate pleased by food at proper intervals, even if the same be rejected soon after. The psychical satisfaction produced by the meal is in itself of service to the patient.

Inhalations of chloroform (fifteen or twenty drops poured upon a handkerchief and the child permitted to breathe it carefully) will sometimes mitigate the severity of paroxysms. I believe the mitigation of severity diminishes frequency. Prof. Hobart A.

Hare suggests in the severest cases the use very guardedly of inhalations of nitrite of amyl, two or three drops upon the hand or handkerchief of the attendant, placed in position to be breathed with an admixture of air. *Bromoform*, an agent comparatively new, from a therapeutic standpoint, has been suggested for whooping cough.

Dr. Krieger has recently reported in the *Texas Courier of Medicine* (Jan., 1891), a number of cases successfully treated by this remedy. His method of administration has been to prescribe "one or two drachms pure, and give one to four drops in a teaspoonful of milk three to five times a day, according to age and severity of disease, and, moreover, to give special instructions that the last remnant be given from the spoon, as bromoform does not mix, but sinks to the bottom. A happy feature is its sweetness."

He claims that a majority of his cases were promptly controlled from the beginning and terminated favorably in from five to ten days.

## VACCINATION.

If the child be reasonably healthy, vaccination should be performed when it is about three or four months old. It is better at this age than later, for it is more quiescent and passive, and less likely to irritate the "sore" by over-exertion. Fortunately for the benefit of humanity and the convenience of the profession, bovine virus is now cultivated in large quantities all over the country, and this is the only kind we should ever use. Under no circumstances should we take virus even one remove from the cow, as the possibilities of infection of other diseases from individual to individual should not be despised. The physician is remiss in his duty, if he does not urge upon the parent the importance of vaccination, and he should be willing at all times to take the responsibility of administering it. Unless there is some inherent weakness in the blood of the child, there need be no fear indulged in connection with the procedure. My usual plan in vaccinating is to take the point of a dull knife and scrape rapidly the outer layer of the skin until the glistening, denuded surface appears. Blood will not usually follow. The quill upon which the virus has been deposited should then be moistened in a little water and briskly rubbed over the surface, and the part be allowed to completely dry.

Direct the mother to sew on the inside of the sleeve, particularly if it is flannel, a piece of soft linen, as it is more cooling to the part. No adhesive plaster nor other application should be made to the inoculated point. We should direct that the part be protected in every way possible, and the scab not allowed to be broken, as the breaking of the same extends the inoculation and increases the sore, without adding to its efficiency. Select a point upon the remote side of the arm about three inches below the insertion of the joint. Under no circumstances, even if the victim be a girl, should we allow the leg to be chosen. The muscles of the leg are brought more freely into play, and the sore is likely to be much greater. Maternal vanity should not fear the effect of a mild scar produced by the inoculation upon the arm. Even if the demands of society later in life require the exposure of the arm, the appearance there of a delicate white scar cannot be other than decorative, and to the medical mind it should be particularly gratifying as it stands out prominently as a tribute of society to science and the great Jenner.

## CONTINUED FEVERS.

There are various kinds of fevers among children, and whatever the cause, the disposition is to a continued form of fever rather than to that which takes upon itself the intermittent character.

Even if malaria be the exciting cause we do not have, so frequently as in adults, a well defined chill followed by fever of a very high grade and then an intermission, but are much more apt to have a mild expression of fever continuous in character.

A heavy cold in the child, checking the secretions, directing the blood inwardly and congesting the internal organs, will develop a fever which may last for a number of days, and may even be so pronounced and dangerous as to cause death early.

In such cases our diagnosis could probably be safely made, "Congestive fever."

The one element that is to be always considered in childhood, is the nervous system. From infancy up to the complete development the nerve centers are more or less delicate and susceptible to external influences.

This fact it is which gives many infantile diseases which would otherwise be trivial in character a serious aspect.

Delicate nerve centers, a soft and pliable brain, it is

true may at times bear injury produced by external violence wonderfully well, and yet that same brain, in consideration of its unorganized, uncertain susceptibilities may be completely demoralized and destroyed by a congestion which adults would bear easily and well.

There are certain general principles to be observed in the management of the fevers of children which will apply in all cases no matter what the cause, whether it be congestion or so-called malaria.

In this connection I would say that I believe seventy-five per cent. of the so-called malarial fevers are not such, but only a disturbed condition of the circulatory apparatus and nerve centers, with an accompanying accumulation of excretory matter that should have been eliminated, caused by chilling of the surface from insufficient clothing and exposure to variations of temperature.

There may be a malarial germ which is at the bottom of the so-called malarial fever, but so far as my observation extends, I believe that the sufferers in the greater bulk of the so-called malarial cases are simply the victims of taking cold.

There is an exposed surface, the blood is driven inwardly toward the liver, the lungs, the spleen and the digestive apparatus ; a general riot results, fever is developed and we term it "Malaria."

It matters not, however, what term we apply; we have a condition to meet and the best way in which

to meet it is to produce upon the part of the body affected a reverse tendency; to open up all the secretions as far as possible; to bring the blood to the surface; and to tranquilize the disturbed nerve centers.

The only indication which justifies the thought in the direction of some special malarial germ is the feature of periodicity. In children this periodicity is not so marked.

If called to a case of fever in a child, we shall generally find a coated tongue and evidence of impaired digestion, with more or less tenderness over the stomach and bowels.

We find frequently in infants, that bronchitis is present. The first important thing to do is to arouse all the excretory organs. The bowels may be thoroughly open, and yet the various excretory glands connected with the intestinal canal may not be active.

To simply ask the parent if the child's bowels are open is not sufficient. The evacuation should be seen and closely scrutinized and the doctor should not hesitate to use his nose as well as his eyes.

The odor very often determines the condition of the alimentary canal. There is nearly always a perverted secretion; a disposition to decomposition evinced by the odor, or else a thoroughly torpid, inactive state evinced by the absence of odor.

A thorough cleaning out of the alimentary canal by means of one grain doses of mild chloride, re-

peated every two hours, until a complete response is secured, should be followed by broken doses for a day or two to keep up the activity of glandular action, the one-tenth to the one-eighth of a grain of the same drug being given every two to four hours.

Of course the temperature should be determined promptly and if high it should be immediately reduced, because high temperatures long continued are dangerous; the most prompt means of reducing a dangerously high temperature is the cooling bath.

A visit should be made within twelve hours to determine whether the fever is still present or not. Cases of cold and acute indigestion, produced by improper food, or a cold received immediately after eating, creating a congestion in the neighborhood of the stomach and an interference with digestion may oftentimes be relieved by a simple clearing out of the alimentary canal.

The subsequent treatment requisite in such cases is a proper selection of a mild diet for several days and protection against chilling of the surfaces.

If we discover, however, that in spite of the efforts made to remove the cause, we still have a fever present and that it is disposed to continue, we should provide for a gentle siege of longer or shorter duration as the case may be.

Of course we shall keep ever in mind the possibilities of malaria and the administration of quinine

should be early instituted, after the conditions shall have been made favorable to its reception.

It goes without saying that any remedy which it is desired should be thoroughly absorbed, should not be given until the stomach and alimentary canal are in proper shape for its reception.

On general principles, therefore, the clearing out of the stomach and bowels, placing the absorbents in a receptive attitude should be accomplished, before exhibiting quinine.

**CONTROLLING TEMPERATURE.**--It should not be our desire to reduce the temperature of a fever patient too rapidly or too constantly, or to too great a degree.

A temperature of 102 is not dangerous. If it goes higher, however, means should be instituted by which a reduction of one or two degrees may be secured.

Of course, if the temperature runs up rapidly to 104° or 105° or higher we should reduce it promptly, and the best means to this end is a cooling bath.

Some writers favor a sudden immersion in very cold water. This is in the majority of cases, I think, unnecessarily severe, in fact considering the shock to an already demoralized nervous system, I think that a much more humane way for the administration of the cooling bath is to immerse the child in water the temperature of the body, or even warmer, and then permit the heat to be gently reduced until

a proper degree of coolness is secured. It should be kept in the bath sufficiently long to bring the temperature down to a reasonable degree.

In order to hold the temperature down for any prolonged time it is questionable whether we should repeat the bath often.

To some patients the bath is grateful and conducive only to good. To others the bath is demoralizing, a riot is created every time it is administered, and when such is the case, I am strong in the conviction that other means should be used.

Many times the administration internally of febrifuges may be alternated with the bath, and in this way the temperature may be much more easily controlled.

I have under my care at this moment a child of seven, naturally amiable, a well controlled, well managed little girl, in health fond of her bath, but the very suggestion of a cooling bath or even of sponging of the surfaces arouses a cyclone of irritability, screaming, kicking and struggling to such a degree that the bath cannot be given.

Unquestionably a hypersensitive nervous system, resulting from a high degree of fever, has developed a special aversion to all form of water, applied locally; even a cold cloth to the head creates worry and annoyance. In this case, as in many others that have come under my observation, I have been forced to apply other means for reducing the temperature.

I am already on record as favoring the use of acetanilid, in a paper read before the American Medical Association, at Newport, in June, 1889.

I have not changed my views regarding the drug.

To a child I administer a dose ranging from one to five grains, according to the age, using the following formula:

|   |                                |                       |
|---|--------------------------------|-----------------------|
| B | Acetanilid,                    | $\frac{1}{2}$ dram.   |
|   | Vin Tokay (Calvico),           | $\frac{1}{2}$ ounce.  |
|   | Pepsin Cordial (P., D. & Co.), | $\frac{1}{2}$ ounces. |

M. Sig.: One to two teaspoonsfuls, every two to four hours according to age and intensity of fever.

I prefer in the use of this drug, as in the use of all other agents for reducing temperature, to give an average dose and maintain the effect secured by a repetition of dose.

I am not in favor of large antipyretic doses.

Where too great a reduction is produced the reaction is all the greater and the depression is objectionable.

As will be observed in the formula as given, I nearly always accompany the antipyretics with a small amount of alcoholic stimulation in order to overcome any possible depression.

Some writers use analgesin in place of acetanilid.

I am inclined to believe that analgesin is more depressing and that there is greater danger to the heart.

I have had most excellent results in a small num-

ber of cases in the use of phenacetin in the place of acetanilid, as a reducer of temperature.

The advantage of the coal tar products is that they, while reducing the temperature also tranquilize the nervous system and tend in the direction of rest and sleep, and at the same time they are undoubtedly, to a degree, antiseptic to the alimentary canal.

The position may be taken by some that fever is only a symptom of a condition and that by reducing the temperature we simply mask the condition.

We might also say that pain in the stomach or bowels, or anywhere else is only a symptom indicating a condition.

None the less, we should relieve it, as the symptom, by effects produced, if long continued, may be demoralizing and dangerous.

High temperature long continued is dangerous. For these reasons I am strongly in favor of holding down the temperature.

In all these continued fevers I believe that it should be our effort to manage our fever cases, rather than to medicate, and yet there are times when medicine serves us well.

As a means of controlling temperature we have had added to our armamentarium valuable remedies in the coal tar series. With their aid, coupled with judicious bathing and proper efforts toward meeting the symptoms as they arise, these fevers have been robbed of many of their terrors.

There are three very important features which require attention in fever cases:

First; the keeping actively engaged the glandular system of the body, by which the waste products, resulting from combustion expressed by the fever, are carried away:

Second; the proper tranquillization of the patient:

Third; correct nutrition, tranquillity is largely assisted by measures which are applied for the reduction of temperature, but in many cases additional efforts will be required.

An abundance of sleep should be secured, and if it is not accomplished by remedies which have been given to reduce temperature there should be given, as may be indicated, small doses of chloral hydrate, from one to five grains, coupled with bromide of soda, five to fifteen grains, according to age.

The best means of administering the combination is the following:

|   |                    |        |
|---|--------------------|--------|
| R | Chloral Hydratis., | 3 ss.  |
|   | Sod. Bromid.,      | 3 jss. |
|   | Syr. Tolu,         | 3 ij.  |

M. Sig.: One or two teaspoonsful according to age or requirements until rest is secured.

In certain conditions complete rest cannot be secured, except under the administration of mild opiates. These are as a rule objectionable on account of the fact that they have a tendency to check the secretions.

The best of the class, however (as there is less interference with the glandular action by the opiate in this form), is the Dover's powder, and the best form in which to administer the latter is the syrup doveri (Gregory) in doses ranging from one-half to one teaspoonful every two hours as may be required. This combination is pleasant and attractive to most children.

There are times, however, when we can administer to good advantage infinitesimal doses of morphine, and the soluble triturates that have been prepared by the firm of Parke, Davis & Co. (Detroit), are very convenient.

We may take, for instance, a tablet of the one-eighth of a grain of morphine and dissolve it in twelve teaspoonfuls of water in a glass and we have there represented one-ninety-sixth of a grain of morphine to the teaspoonful.

Instructions may be given to administer one teaspoonful of this every half hour or every hour, as required to secure rest.

We should impress upon the attendants in the sick room the importance of guarding our patient against the meddlesome visiting and attention of over zealous friends.

The sick may well call out, "Save me from my friends." The attentions of the latter are well meant, but misdirected.

A case of fever, as in fact any other disease, should

be managed on strictly business principles and a period of serious illness is no time for social visits, as they disturb, arouse and excite a sensitive patient, and interfere with the smooth running of the household so essential to the comfort of the sufferer.

Among the more intelligent class the securing of our wishes is easy, but the trouble comes in when we have our cases among the great numbers in the lower segment of the social circle.

There the sick room is frequently crowded night and day, and it is important that we should be firm in our instructions, in fact, we should take a decided stand, informing the family that unless our instructions are executed to the letter, we will retire from the case.

Positiveness usually carries conviction, and a general commanding an army should never hesitate in his commands. Under such conditions suggestions are not in order. The thing to do is to command, and see that the command is obeyed.

## TYPHOID FEVER.

Through the researches of Koch, Eberth, Meyer, Friedlaender, Gaffky, and later, of Fraenkel and Simonds, the typhoid bacillus has become an entity that must not (and cannot safely) be lost sight of during the progress of a case of typhoid fever and after its termination.

We are too much inclined to be on the lookout for classical representations of this disease, as of many others.

I have had a number that I placidly considered simple continued fever, temperature not ranging higher than from 101° to 103°, no rose spots, no tympanites, no special evidence of intestinal irritation, nothing leading me to suspect typhoid fever, until suddenly aroused to an appreciation of the fact by dangerous and repeated hemorrhages from the bowel, and in one instance (in 1877) the bleeding continued until it proved fatal.

This occurred in a boy of six, and was convincing proof to me of the fallaciousness of the idea that formerly obtained that young children are not susceptible to the malady.

In this connection I recall the circumstance of a consultation upon a youth who had been ailing for some weeks, though he was up and about until a few

minutes before the family physician was summoned and found him in great agony.

An investigation developed an intestinal perforation which caused death in a short time.

The clinical history and the post-mortem revelations evidenced an illustration of "walking typhoid fever."

We know that we frequently have scarlet fever so mild as to be entirely overlooked until the attention is aroused by grave nephritic trouble; and so in all diseases, the artistically perfect specimen is the exception and not the rule.

It has no doubt been the observation of all, that the course and complications of typhoid fever are as varied as the individual victims, but it was not recognized until lately (by Griesinger) that numerous light and rudimentary attacks (*typhus levissimus*) belonged to typhoid fever at all.

They used to have all sorts of names applied to them, as suggested by Struempel, the favorite being "gastric fever."

The diagnosis is of course difficult in proportion to the scanty development of typhoid symptoms, and it is best established by demonstrating an etiological relation between them and others that are plainly typhoid fever.

Apropos to this middle class of cases, I remember a case that came under my observation some years ago; a five-year-old boy in a family where three

other cases developed (one fatal) of a violent character; the child was sick only about twenty-one days, and under ordinary circumstances his case would have been diagnosticated simple continued or remittent fever.

As the individual manifestations vary, so too do entire epidemics.

One season the type is violent, and in another mild.

There are those who believe that by active interference, typhoid fever may be aborted; though I am not ready to endorse this proposition, I am sure that it may be modified and abbreviated.

I cite briefly the following as an illustration:

July 21, 1887, J. T. C. taken with violent vomiting and intense abdominal pain; examination revealed a lusty plethoric boy, red tongue, heavily coated, pulse 140 to the minute and full, temperature 105.5°, acute tenderness over abdomen with constipation. Remedies were ordered for opening the bowels, soothing the stomach, and reducing the temperature.

After the lapse of twelve hours an action of the bowels had been secured, but there was no improvement in the general condition.

One grain of calomel to be taken every hour, was ordered at once with the application of ten leeches over the stomach and ileo-cæcal region at point of greatest tenderness, followed by hot fomentations.

The leeches abstracted three or four ounces of blood, giving marked relief; at the end of ten hours

the ten grains of calomel had produced active purgation, and this together with the local abstraction of blood, had mitigated all the symptoms; the temperature was down to 102°, the pain was almost gone, no nausea, no vomiting.

The patient was in every way more comfortable, and jogged along for four weeks with a mild form of typhoid fever instead of dying during the first five days, as I believe he would have done had a temporizing course been pursued.

Recognizing the disease as an infectious one, dependent upon a specific virus, it behooves us to treat it upon the antiseptic plan, aiding elimination by stimulating the excretory organs, sustaining the strength by diffuse stimulation at the proper time, and the furnishing of an abundance of nutrition in a form for prompt assimilation.

As previously remarked since the introduction of the coal tar products the dangers of high temperature are much less than formerly, as we certainly can control that feature; however, I favor their very careful administration, until full opportunity is given for the ascertainment of the degree of susceptibility. There has been recorded already, a number of unfavorable results; even death has occurred owing probably to some peculiar idiosyncracy. I prefer small doses at short intervals, keeping up the effect continuously, rather than large doses which produce sudden and excessive falling of temperature. I think

a sudden reduction no matter how attained, is not so likely to be maintained; large doses are depressing and endanger heart-failure. While the coal tar series are of great value as febrifuges and tranquilizers of the nervous system and at the same time diaphoretic, in the cooling bath we have an agent equally valuable. I do not mean the sudden immersion in cold water; that is uncalled for, undesirable and brutal. The temperature of the water at first should be about the same as that of the patient, and may be gradually reduced to 85° to 80°. The bath may be prolonged five or ten minutes. Often, patients wildly delirious, go calmly to sleep during the progress of the bathing.

The advantages of the bath I take it are:

1. The reduction of temperature is accomplished gradually and comfortably to the patient in accordance with nature's plan of putting out fire with water:
2. The water acts primarily as a soother of the peripheral nerves, and secondarily calms the disturbed nerve centers:
3. It stimulates the secretory glands, allays thirst by being directly absorbed into the heated and dry tissues; encourages diaphoresis as well as diuresis:
4. It influences favorably the respiratory organs by energizing inspiration; and thus aids in the securing of expectoration, and as a result bronchial complications are less frequent:
5. The hygienic effect upon the skin is of great

value, removing as it does the foul smelling products of the sweat and sebaceous glands, aiding the procurement of strength and elasticity in the cutaneous and adjacent tissues, conditions antagonistic to bedsores.

The bath should be administered with due regard to the comfort of the patient; drafts should be avoided, and immediately following the bath a thorough drying and brisk rubbing of the surface should be instituted, and warm covering with hot water bag to the feet, if need be, and a nice cup of hot broth or a little wine or toddy would be in order.

Acetanilid or phenacetin and bathing or sponging may be used conjointly to good advantage.

As an antipyretic, quinine should be ruled out altogether. In doses sufficiently large to reduce temperature, it is demoralizing to the nervous system as well as to the digestive tract, and when we recall the fact that the sheet anchor of hope in typhoid fever consists in good digestion and nutrition, and tranquil nerves, we can see that the objection to quinine is well founded.

If well-defined malarial symptoms present themselves as a complication, an antiperiodic is of course indicated, and quinine should be given, but very carefully.

In this connection permit me to express the opinion that the so-called typho-malarial fever of Woodward is a misnomer, being probably nothing more

than a modified expression of typhoid fever plus malaria.

Certainly the coining of a new name for every modification of the disease is confusing, and the practice should receive no encouragement.

What has been said above need not be interpreted as an objection to tonic doses of quinine during the period of convalescence, but as against the administration of quinine to a well-defined case of typhoid fever.

In the earlier, middle or later stages of the disease, there may come a time when the necessity of the situation demands the removal of the patient from one section of the country to another.

I desire to place myself on record as being strongly of the opinion, that the danger of removing a person seriously sick has been greatly overrated ; that with due care, and guarding against the chilling of the surfaces and interruption of the proper amount of sleep, typhoid fever and other dangerous cases may be safely transported hundreds of miles.

I have a record of four cases, successfully and advantageously removed from one hundred to one thousand miles on sleeping cars, which justify this conclusion.

As the administration of the calomel purge in the beginning is satisfactory, so the renewal of one-eighth grain doses every other day to the number of half a dozen, is an advantage in the direction of keeping the bowels open, as well as serving as an intestinal antiseptic.

If an additional aid is required to evacuate the bowels an enema of a teaspoonful of glycerin (as suggested by Anacker) or the glycerin suppository is a ready means of securing a prompt evacuation.

Permit me to emphasize the most salient points I desire to make:

1. Typhoid fever varies in intensity, severity and length of attack, as do other infectious diseases, and while it has not yet been established that any of this class can be aborted, yet typhoid with all the others, may be mitigated and abbreviated, and unfortunate complications are sequelæ often preventable:

2. To the securing of this end that which is of paramount importance, is management rather than medication, though there are many dangers that can only be tided over by the prompt and proper exhibition of drugs:

3. The administration of remedies that are anti-septic and stimulate the excretory organs is important, and for this purpose small doses (1-50 gr.) of bichloride, or the mild chloride (1-8 to 1-4 gr.) as often as is necessary to produce the desired effect are of value:

4. Nutrition, by the administration of food in a form for prompt assimilation, is a necessity, and to this end the diet should be limited to peptonized milk, beef peptones (Mosquero's Beef Cacao) bovine (Bush) etc., bearing in mind that the stereotyped home-made beef tea is of no more value as a food

than a weak toddy, being a mild stimulant and nothing more:

5. Agreeable aleoholie stimulation furnishes food and force:

6. Freedom from pain, tranquillity and perfect rest should be insisted upon, remembering that this disease of all others has a wrecking effect upon the nervous system (it having been called by some German writers "fieber nervoese" or nervous fever) we should see to it that our patient obtains no less than twelve or sixteen hours sleep out of the twenty-four, and the remainder of the time be saved from the meddling, misdirected kindness of overzealous friends:

7. For the obtaining of sleep and the relief of nervousness, the administration of acetanilide, phenacetine, chloral, paraldehyde, urethan, and the bromides, is preferable to opiates, though occasionally the latter are demanded:

8. When the conditions surrounding a patient are unfavorable and a change is desirable, sometimes even to a distant point, the removal under proper precautions against chilling and unrest, may be permitted or even preferred, the danger of the same not being as great as it is generally considered to be:

9. As a rule a patient with typhoid fever, or any other wasting disease, should not be permitted to have bed-sores, which are an expression of starved tissue and neglected skin, and are preventable, the means of their prevention being proper nutrition and bathing.

## EPISTAXIS.

Nose-bleed is a common occurrence among children. It may be due to accident, by directly falling upon the nose, a denudation of the mucous membrane lining the nasal cavity, or the cause may be a general one, dependent upon blood pressure. To this class belongs the bleeding of the nose sometimes seen in the outset of active fevers. A special case of long continued bleeding from the nose is sometimes met with, but fortunately rarely, known as hæmophilia, or the hæmorrhagic diathesis, known among the laity as "bleeders;" or the condition may be a constitutional one, a temporary tendency to ready hæmorrhage, due to some organic lesion of the blood. Under this head we have "*purpura simple*," "*purpura hæmorrhagica*" *anæmia*, *chlorosis* and the strumous diathesis. The bleeding from the nose of a child may be of very slight import, or it may indicate a serious condition. In the early stages of some of the acute diseases it may have a beneficial effect, but in all anæmic or weakened conditions of the blood, or in any case where it is prolonged, it bodes no good. We are frequently called to a sudden case of hæmorrhage from the nose in active and full-blooded children. In such cases generally we are safe in assuring the patient and the family that the bleeding will be beneficial rather than otherwise. If it does

not stop spontaneously, the application of ice-cold cloths over the nose and the frontal region of the head may be sufficient. If not, the introduction into the nares of small pledgets of ice and the snuffling up of ice-water, will serve the purpose. It may be desirable to saturate the same with alum. If the conditions be such as to demand a prompt checking of the haemorrhage, the introduction into the interior part of the nose by means of a long slender probe, of small pledgets of absorbent lint, tied at intervals of two or three inches upon oiled silk thread, the pledgets being about half an inch square, and saturated with a strong solution of alum, or smeared with pulverized tannin, and the same packed firmly, though gently, into the entire anterior nasal space, may be all sufficient. Sometimes, however, the bleeding may be active, and be in the direction of the back part of the nose, and require a plugging of the posterior nares. In this case there are instruments which have been devised, to the point of which may be applied, attached to a string, sponges saturated with astringents, such as the sesqui-chloride of iron, tannin or alum. A most valuable means which I have applied during the past twenty years to the posterior nares, suggested to me when a student by my esteemed teacher and friend, the late Prof. Jno. J. McDowell of St Louis, and which I have never seen recorded, is the use of the condom, which is made from the animal membrane known as the

“vermiform appendix” of the sheep, and sold in the majority of drug stores ; or, has been presented to us in these latter days, in the form of the delicate, finest quality of soft india rubber. The sizes vary. I would select one in accordance with the age. For a child the smallest size would be valuable. By means of a long and delicate probe introduced within the condom, it can be pushed gently upward and backward through whichever nostril seems to be the most open ; and in this connection we must remember that in nearly all cases there is a deviation of the septum, so that one nostril or the other is the smaller. By gently pushing the probe, which is embraced by the condom, upward and backward, the probe being a pliable one, which can be bent in accordance with the necessities, we soon have it reaching well back in the naso-pharyngeal space. The condom can then be readily filled with ice-water, and we can have a ligature at the external opening, which can be closed at will. By this means we have a cold mass and pressure in back part of the nose, which in the majority of cases promptly checks the haemorrhage. I have rarely found this procedure fail, and it is unquestionably easier of application than the average “plugger,” and is much more portable, as the condom can be carried in the purse easily. When one succeeds in checking the haemorrhage, as I believe he will, he may felicitate himself that he has done the work “*secundum artem.*”



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